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Productivity Measures for Selected Industries and Government Services

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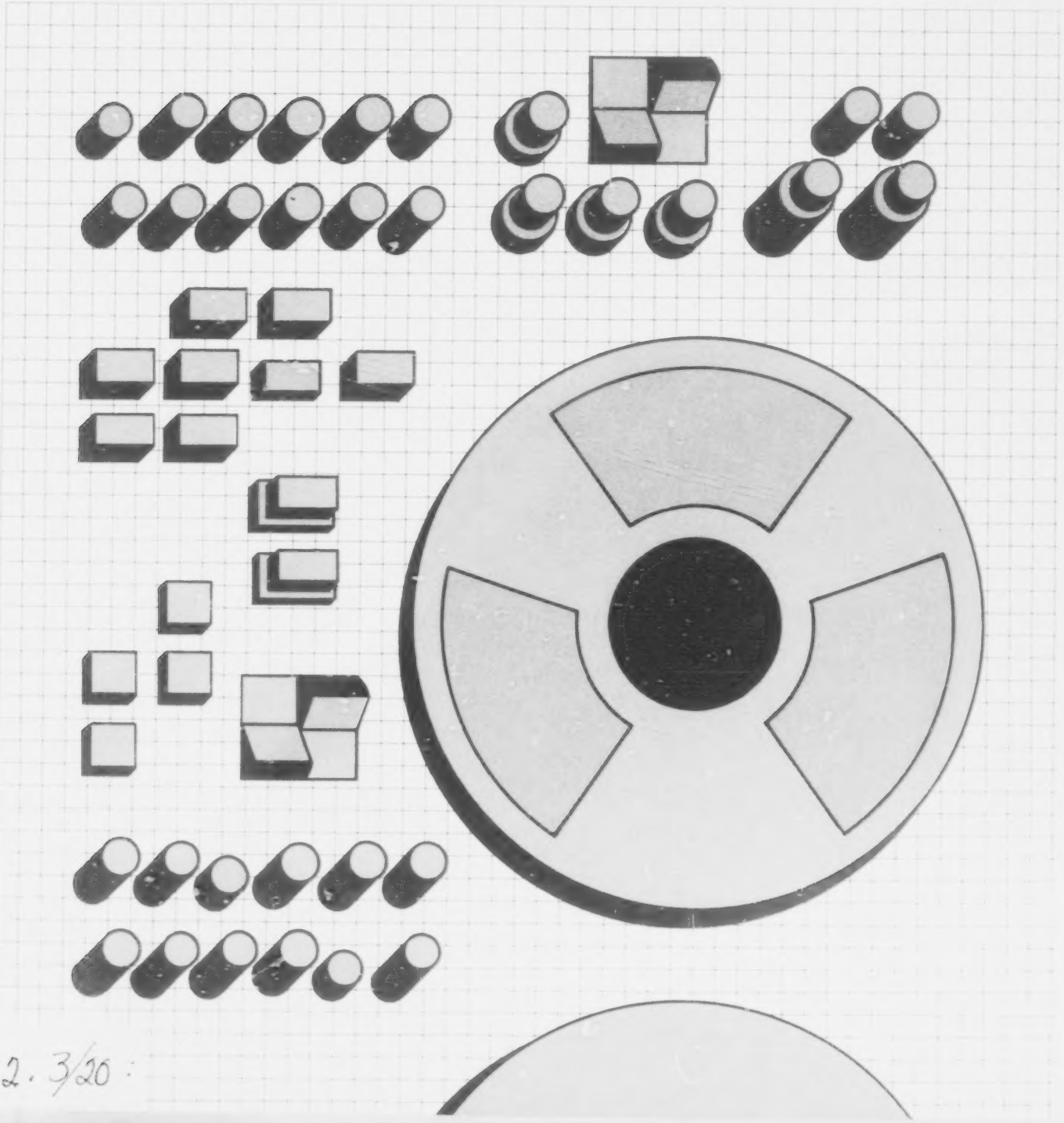

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U.S. Department of Labor
Elizabeth Dole, Secretary

Bureau of Labor Statistics
Janet L. Norwood, Commissioner

February 1989

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Preface

This annual bulletin updates through 1987 all indexes currently included in the industry productivity measurement program of the Bureau of Labor Statistics (BLS) U.S. Department of Labor. The bulletin contains three sections. Part I includes labor productivity trends for selected industries; part II, multifactor productivity trends for selected industries; and part III, labor productivity trends for selected government functions.

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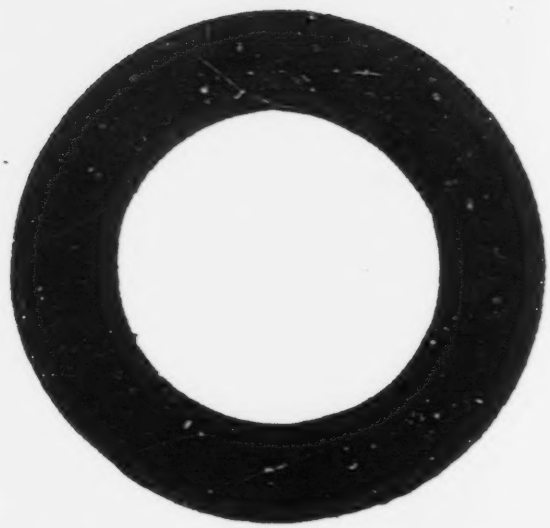


Contents

	Page
Introduction	1
Part I. Labor productivity trends for selected industries	2
Current developments	2
Long-term trends	3
New measures	5
Chart 1. Output per hour in selected industries, 1982-87	4
Tables:	
1. Selected industries: Employment, 1987, and average annual rates of change in output per hour, 1982-87	7
2-284. Output per hour and related indexes for selected industries	10
Part II. Multifactor productivity trends for selected industries	176
Current developments	176
New Measures	176
Charts: Multifactor productivity for selected industries 1958-86:	
2. Steel	177
3. Motor vehicles and equipment	177
4. Tires and inner tubes	178
5. Footwear	178
Tables:	
306. Multifactor productivity growth and its relationship to output per hour for selected industries, 1958-86	176
307-314. Multifactor productivity indexes and related indexes for selected industries, 1963-86	180
Part III. Labor productivity trends for selected government functions and services	185
Federal Government	185
Current developments	185
Long-term trends	186
Compensation and unit labor cost	188
State and local government	189
Electric power	189
Unemployment insurance	189
State sales of alcoholic beverages	189

Contents—Continued

Page

Chart 6. Output per employee year in the Federal Government by functional category and for total measured sample, fiscal years 1967-87 187

Tables:

Indexes of output per employee year and related data:

315. Federal Government—Total sample, 1967-1987 185

316. Definitions of functinal categories 186

317-344. Federal Government: Functional categories, 1967-87 190

345-347. State and local government 204

Appendixes:

A. Methods and data sources 206

B. BLS publications on productivity and technology 210

Index of industries 214

Introduction

Several industry productivity indexes are presented in this publication for the first time. These include: Men's and boy's suits and coats; agricultural chemicals; nitrogenous fertilizers; phosphatic fertilizers; fertilizers, mixing only; pesticides and agricultural chemicals, n.e.c.; carburetors, pistons, rings, and valves; and variety stores. Articles on these industries are forthcoming in the *Monthly Labor Review*. In addition, several existing measures have been disaggregated to provide greater industry detail. These new measures include: Steel foundries, n.e.c.; grocery stores; retail bakeries; household appliance stores; and radio, television, and music stores. Multifactor productivity indexes are being published for the first time for tires and tubes, and footwear. Articles on these industries will also appear in the *Monthly Labor Review*.

In part I, the indexes represent the change in output per employee hour for each industry. These measures are not necessarily a representative cross-section of U.S. industry. The labor productivity measures describe the relationship between output in real terms and the labor time involved in production. Indexes are constructed showing the ratio for two periods of the total hours required to produce a given composite of products and services. Although these measures relate output to employment and employee hours, they do not measure the specific contributions of labor, capital, or any other factor of production. Rather, they reflect the joint effect of a number of interrelated influences, such as changes in technology, capital investment per worker, level of output, utilization of capacity, layout and flow of material, managerial skill, and skills and effort of the work force.

Indexes of multifactor productivity are presented in part II to help provide insight into some of the factors influencing labor productivity change. Indexes of multifactor productivity represent the change in output per unit of combined labor, capital, and intermediate purchases. The differences in the movement of these indexes and the labor productivity indexes provide a measure of the effect of changes in capital and intermediate purchases relative to labor.

Labor productivity indexes are presented for selected government functions and services in part III. Federal indexes, measuring output per employee year, are constructed with data collected from a sample of agencies and cover the fiscal years 1967-87. Indexes are also presented for three State and local government services. Like labor and multifactor productivity indexes for industries, indexes of output per employee year for government functions and services reflect the joint effect of a number of interrelated influences.

The Bureau of Labor Statistics also publishes indexes of output per hour and multifactor productivity for the private business sector and for the nonfarm business, manufacturing, and corporate sectors. These productivity series show the relationship between gross product originating in these sectors and labor and/or capital inputs. These data are presented in several BLS publications, including Productivity and Costs (quarterly news release), the *Monthly Labor Review*, and Employment and Earnings. More detailed information on methods, limitations, and data sources is contained in *BLS Handbook of Methods*, BLS Bulletin 2285. Reports on individual industries and tables and output indicators for Federal Government functions are available on request from the Bureau of Labor Statistics. Further information concerning the indexes covered in this bulletin can be obtained by writing to the Office of Productivity and Technology, Bureau of Labor Statistics, Washington, DC 20212. (Telephone: 202-523-9244.)

Part I. Labor Productivity Trends for Selected Industries

Current developments

Productivity, as measured by output per employee hour, increased in 1987 in more than two-thirds of the industries for which data are currently available. In comparison, productivity gains were recorded in more than three-fourths of all industries in 1986.

Among the manufacturing industries, both steel and motor vehicles posted gains in output per employee hour in 1987. The steel industry registered a gain of 7.0 percent, well above the industry's long-term average. Output was up significantly, by 9.5 percent in 1987, after declining in 1986. Demand for steel grew in such important markets as construction, chemicals, oil and gas production, and heavy equipment manufacturing, while employee hours grew 2.4 percent in 1987. This was the fifth consecutive year of steel industry productivity growth. Motor vehicle manufacturing registered a productivity gain of 2.9 percent, slightly below the industry's long-term average. Output grew 0.8 percent, reversing the decline of the previous year, while employee hours fell 2.0 percent in 1987. Although production of passenger cars fell in 1987, this drop was more than compensated for by output gains in trucks, buses, truck trailers, motor homes, and replacement parts. This year marked the seventh consecutive gain in productivity by the motor vehicles industry.

Among the other manufacturing industries, a number had large output-per-employee-hour increases in 1987. Semiconductors gained 23.6 percent after registering only a small increase in the previous year. Output was up 14.0 percent, because of such factors as increased demand from computer manufacturers and limits placed on imports from Japan. Employee hours were off 7.8 percent, due in part to mergers and consolidations in the industry.

The aluminum industries also had higher productivity gains in 1987 compared with those in 1986. Aluminum rolling and drawing increased 13.3 percent, as output gained 12.3 percent and employee hours declined 0.9 percent. The 7.1-percent productivity gain in primary aluminum manufacturing reflected an output increase of 10.2 percent and an increase in employee hours of 2.9 percent. Both domestic demand for aluminum products and exports accelerated at the same time that new, more efficient, plant and equipment were increasingly being used.

Productivity in the oilfield machinery industry rose 12.6 percent in 1987. However, this increase reflected a drop in output of 10.7 percent, due to continued poor demand for oilfield equipment as oil prices remained low, and an even larger drop of 20.6 percent in employee hours as the industry continued to reduce employment. The tires and inner tubes industry, benefitting from cost cutting in previous years which involved elimination of outdated plant and equipment, recorded a large productivity gain of 10.8 percent in 1987, compared with a substantially smaller gain in 1986. Output was up 10.3 percent in 1987, while employee hours fell 0.5 percent in this industry.

Other important manufacturing industries with substantial gains in productivity in 1987 included radio and television sets (8.1 percent), bottled and canned soft drinks (7.3 percent), men's and boy's suits and coats (6.8 percent), metal cans (6.6 percent), synthetic fibers (6.5 percent), and paper, paperboard, and pulp mills (6.2 percent). These industries also registered output gains.

On the other hand, a number of manufacturing industries registered large declines in productivity in 1987. These industries included cigars (16.5 percent), construction machinery (7.3 percent), steel foundries (6.0 percent), transformers (4.8 percent), metal cutting machine tools (4.7 percent), and footwear (4.6 percent).

Productivity changes were mixed among the mining industries. Iron mining (usable ore) had a very high productivity gain of 32.5 percent in 1987. Output grew 21.0 percent, in response to strong demand from the steel industry, while employee hours continued to decline (8.7 percent). Copper mining (recoverable metal), however, posted a large decline in productivity of 8.3 percent. Although output increased strongly (11.0 percent) as demand for copper expanded sharply, employee hours were up even more (21.1 percent) as many workers were engaged in renovating reopened mines prior to the actual production of ore.

Coal mining productivity was up 7.4 percent. Output grew 3.0 percent due in part to increased demand from utilities, while employee hours fell 4.1 percent due to changes in work rules and a continued decline in the number of small mines. Nonmetallic mineral mining recorded a small drop in productivity of 0.3 percent. Although output was up slightly (1.8 percent), based on demand from the construction industry, employee hours were up somewhat more (2.0 percent).

Almost all the transportation and utility industries had productivity gains in 1987. Productivity grew 16.6 percent in railroad transportation (revenue traffic), well above the previous year's gain. Output was up 8.2 percent as shipments of coal, grain, lumber, and wood increased and passenger transportation grew. Air transportation posted a productivity gain of 5.9 percent in 1987. Output was up 10.4 percent as both passenger and freight traffic increased, while the number of employees grew by 4.2 percent.

Electric utility productivity grew 5.0 percent as output was up 3.3 percent and employee hours fell 1.5 percent. Gas utilities had a productivity gain of 2.5 percent, with output up 1.4 percent and hours down 1.0 percent. Extreme weather conditions, both heat and cold, resulted in output growth for both of these utility industries, while technological changes helped to lower labor requirements.

Productivity grew 3.0 percent in telephone communications based on an increase in output of 5.6 percent and a gain in employee hours of 2.5 percent. Continued productivity growth in this industry was aided by expanding installation of electronic switches and fiber optic cables. On the other hand, productivity declined slightly in petroleum pipelines (0.4 percent) as both output and employee hours were off slightly (0.8 percent and 0.5 percent, respectively).

Most of the productivity gains in trade and services were small in 1987, and many industries recorded declines. Hardware stores were an exception, with a gain of 8.8 percent. Output grew 11.6 percent as expenditures for maintenance and repair of residential properties were up, while hours increased 2.6 percent.

Likewise, productivity rose in automotive repair shops by 5.6 percent. Productivity also increased in beauty and barber shops (2.0 percent), department stores (1.4 percent), and gasoline service stations (1.3 percent). Productivity in eating and drinking places increased 0.8 percent. Output of these establishments grew 4.9 percent, aided by expansion in take-out and home delivery of food, while hours were up 4.2 percent. Furniture and home furnishings stores had a 0.4-percent gain in productivity. Demand for furniture and appliances remained high in 1987 due to the continued strength in the housing market. Productivity in drug stores grew 0.3 percent as output increased 2.8 percent due to expanding prescription sales, while hours were up 2.5 percent.

Among the trade and service industries with declines, retail food stores posted a drop of 1.9 percent in productivity. The slight increase in output of 0.3 percent was outweighed by the 2.2-percent increase in hours. Apparel and accessory stores had a large productivity decline of 4.7 percent. As the number of stores continued to grow, output declined slightly (0.1 percent) while hours were up (4.9 percent). All of the components of this industry (men's, women's, and family clothing and shoe stores) also registered declines in productivity. Productivity of franchised new car dealers fell 4.9 percent as output was down 2.5 percent due to declining sales of new and used cars, while hours were up 2.4 percent.

Productivity fell 5.2 percent in hotels and motels as the industry continued to feel the impact of overbuilding. Output was up only 0.2 percent while hours grew 5.7 percent in 1987. Liquor store productivity fell 6.5 percent as output fell 3.0 percent and hours increased 3.9 percent. Productivity declined in the laundry and cleaning services industry by 1.2 percent due to an increase in hours (3.0 percent) that exceeded the output increase of 1.7 percent.

Long-term trends

For nearly all of the industries in this report, productivity increased over the long term (beginning in 1947 for some of the industries). Among the industries with the highest growth in productivity were semiconductors and related devices, and wet corn milling. In the semiconductors industry, productivity advanced at a rate of over 12 percent between 1972 and 1987. Burgeoning output coupled with continued and rapid improvements in product design and manufacturing techniques and processes contributed to this spectacular advance in productivity. In the wet corn milling industry, productivity advanced at a rate of 8.1 percent. Until 1972, output and productivity growth in this industry were modest. Thereafter, however, output and productivity expanded rapidly due to increased market penetration of high fructose and glucose corn syrup and the resulting modernization of the industry.

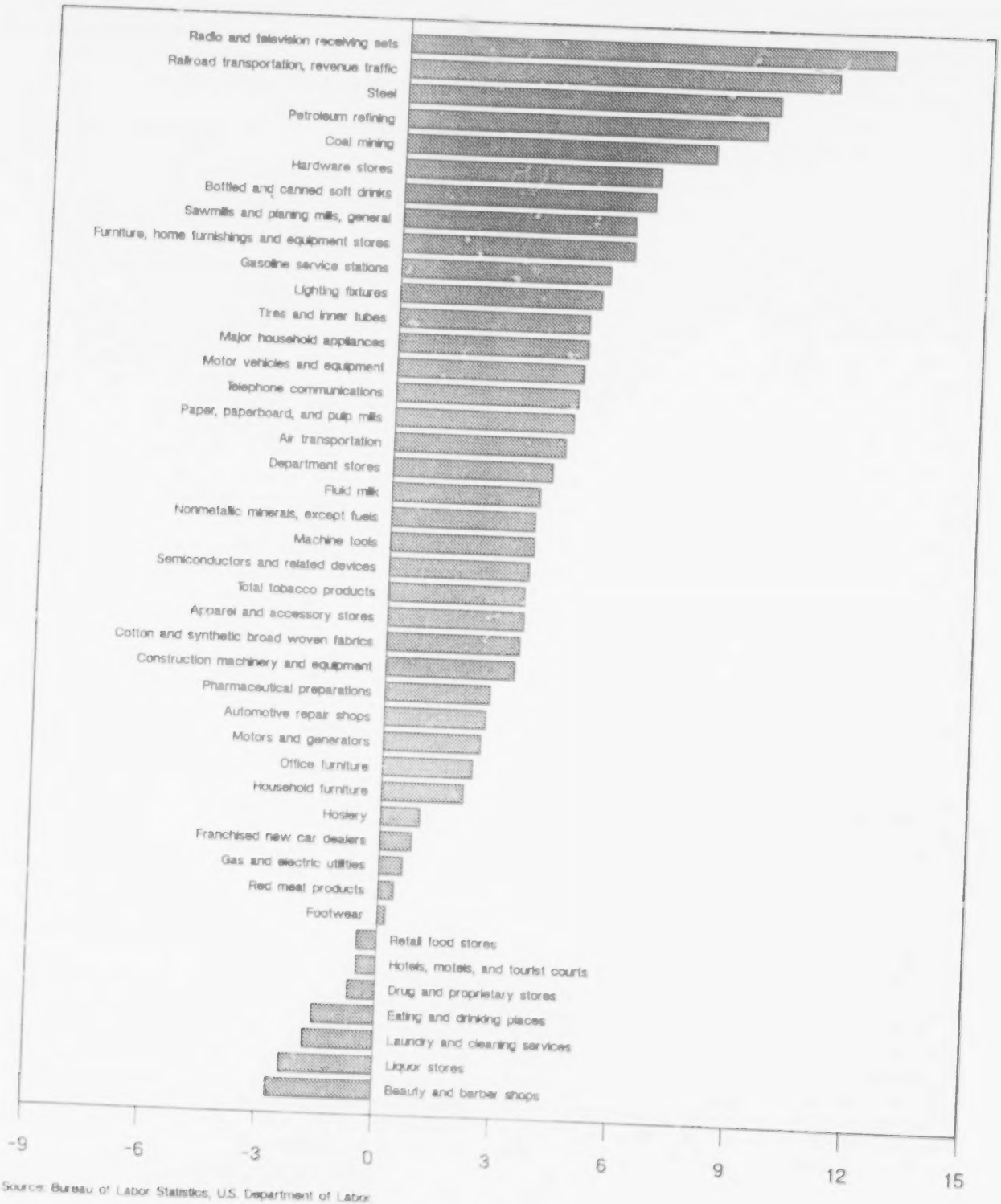
On the other hand, a few industries did exhibit declining productivity over the long term. Among the most prominent of these was the automotive repair shops industry, which experienced a long-term productivity decline of 1.1 percent annually. Some of the factors contributing to this decline have been: The small size of shops and their limited resources, the large influx of new establishments and workers, the increased complexity of new cars and trucks, and the shortage of adequately trained mechanics, as well as the impact of several recessions. Productivity also declined over the long term in the mining machinery industry. Almost exclusively dependent on the coal mining industry, this industry has felt not only the effects of falling coal prices, but also the repercussions of fuel shortages and various energy crises over the past decade and a half. The coal mining industry, faced with excess capacity, has reduced its demand for new mining machinery. Instead, mining companies have tended to buy repair and replacement parts rather than purchase new equipment.

Although the rates of productivity change varied widely among the industries during the 1982-87 period (see chart 1 and table 1), nearly two-thirds of the industries recorded higher productivity growth in the more recent period than in the period prior to 1982. However, these advances in productivity during the later period were associated with less rapid growth in both output and employee hours in about one-fifth of the industries.

Among the industries that experienced an increase in the rate of productivity expansion during the last 5 years, several

Chart 1. Output per employee hour in selected industries, 1982-87

(Average annual percent change)



Source: Bureau of Labor Statistics, U.S. Department of Labor

were notable. The iron mining industry (usable ore) substantially improved its rate of growth in the last few years—18.9 percent a year during 1982-87 as opposed to 2.5 percent annually from 1955 to 1982. Contributing to the gain in productivity was the concentration of production in large-scale taconite operations in the Lake Superior district. Likewise, the copper mining industry (recoverable metal) experienced markedly improved productivity performance during the 1982-87 period—14.9 percent per year versus 1.7 percent during the earlier period. Intense international competition in recent years has forced domestic mine operators to reevaluate their mining methods and to search for ways to improve productivity and lower costs. Some of the methods used to boost productivity have included: Industry restructuring, increased use of solvent extraction-electrowinning, expansion of dump and other in-place leaching, and the modernization or shutdown of old mines and facilities.

However, several industries did exhibit marked declines in productivity growth in the post-1982 period. Among these, the semiconductor industry declined the most—from a gain of 16.3 percent annually during the earlier period to a much smaller rate of advance—3.6 percent for the 1982-87 period. The major factors behind the industry's earlier strong growth in output and productivity were continued innovation in integrated circuits and the industry's adroitness in turning such innovation into low-cost, mass-produced devices. While these factors were also present in the first half of the 1980's, output and productivity growth were dampened by an increase in the Japanese share of the market and a series of slowdowns in computer manufacturing (a major user of semiconductor devices). Additionally, as circuits became more intricate, they required more employee hours to design and produce, further dampening the rate of productivity advance. The oilfield machinery industry was also among those that exhibited a marked falloff in productivity. Prior to 1982, the industry's annual rate of advance was 1.5 percent—dropping to a decline of 5.6 percent per year in the later period. During the 1980's, the industry faced slackened demand for its products stemming from weakness in the price of crude oil. Falling output coupled with the industry's made-to-order, labor-intensive operations aggravated the productivity decline.

New measures

Men's and boys' suits and coats (SIC 2311). Output per employee hour in the men's and boys' suits and coats industry increased at an average annual rate of 1.9 percent between 1967 and 1987 compared to 2.5 percent for all manufacturing. During this period, employee hours declined almost twice as fast as output—averaging a decrease of 4.2 percent per year as against a 2.4 percent decrease in output.

The long-term decline in the industry's output primarily reflects relatively flat demand for men's tailored apparel combined with growing import penetration. While stagnant demand set a limit on the industry's potential output, actual output declined as imports captured an increasing share of the market at the expense of domestic manufacturers. The proportion of total demand for men's suits and coats filled by domestic production fell steadily from almost 100 percent in the late 1960's to around 70 percent by the early 1980's.

In recent years, the adoption of "quick response systems" has helped domestic suit and coat manufacturers maintain their market share. Using improved manufacturing processes and techniques, some manufacturers have greatly reduced the time needed to fill retail orders. While foreign manufacturers often require 6 to 8 months to turn out an order, some domestic producers can now produce an order in about 6 weeks. This large discrepancy favors domestic manufacturers since retailers—who cannot accurately forecast the demand for apparel—prefer to reorder fast-selling apparel goods rather than maintain large inventories.

In addition to numerous changes in production equipment, the industry underwent major changes in manufacturing processes during the 1967-87 period. Foremost was the introduction of fusing techniques in the late 1960's. Initially, fusing techniques were most successfully used to replace basting (sewing temporary stitches) and manual handling of interlinings—reducing the amount of labor required to perform these assembly operations. However, fusing techniques did not replace sewn seam construction in other areas of the garment, such as pockets, belt loops, and lapels, until the early 1980's with the advent of improved adhesives and fusing processes. Another major change in the manufacturing process was the almost total elimination of hand assembly work. Men's suits and coats previously included many parts assembled by hand, such as hand-stitched lapels and buttons, and were often graded according to the number of such parts. After World War II, hand assembly work was gradually replaced by sewing machine operations, reducing the employee hours required to assemble a typical suit or coat. Between the late 1960's and early 1970's, the last major hand assembly operations—mainly finishing and basting work—were replaced by sewing machine operations and fusing technologies.

Agricultural chemicals (SIC 287). Output per hour in the manufacture of synthetic fertilizers and pesticides rose at an average annual rate of 2.2 percent between 1972 and 1986. Output increased 1.3 percent a year and employee hours declined at the rate of 0.9 percent. The productivity improvement compares with an average annual rate of 2.4 percent for manufacturing as a whole.

From 1972 through 1981, industry output increased almost continuously. Thereafter, annual output changes became erratic, resulting in an overall decline in output. The rise in agricultural chemicals output during the 1970's and its subsequent decline were closely related to parallel trends in the production of grains, cotton, soybeans, and other crops. While per-acre use of nitrogenous fertilizer materials grew for feed grains (mainly corn) and food grains (chiefly wheat)

over the 1972-86 period, it tended to shrink for phosphates. However, the pattern of per-acre application of fertilizer had less of an effect on total fertilizer use than did the contraction in acreage planted in major crops. This reduction in acreage planted (which resulted from changes in official farm programs resulting from declining exports and accumulating stocks) also led to sharp cutbacks in the application of pesticides in agriculture (which accounts for roughly three-quarters of their total use).

Although important technological breakthroughs in the production of fertilizer occurred chiefly before 1972, the gradual diffusion of the new technology was a factor underlying productivity improvement well into the 1970's and 1980's. Among these advances was the introduction of centrifugal compressors in the manufacture of nitrogenous fertilizer. The centrifugal compressor permits, or requires, lower pressures (hence less energy per unit of output), less floor space, and less extensive piping. Maintenance labor is thus reduced. This ammonia-producing technology gave rise to a vast expansion of nitrogenous fertilizer plant capacity. Up to the early 1960's, the 400-ton-a-day plant had been the rule, thereafter plants at least three times as large were built.

Additionally, advances in instrumentation, which increased the accuracy of a given product mix, also tended to ease maintenance tasks and lower unit labor requirements. Solid-state instruments have gradually replaced tubing, for example, in measuring mass flow, so that weight and volume of a material entering a process can be determined in combination, rather than separately. Such measuring devices have come to be linked to feedback systems which ensure accurate mix at all times. Process operators are therefore able to perform more than one task, especially in the blending of fertilizer materials.

Carburetors, pistons, and valves (SIC 3592). Productivity in the carburetors, pistons, and valves industry declined slightly, at an average annual rate of 0.4 percent from 1972 to 1986. In contrast, productivity in manufacturing as a whole grew at a rate of 2.4 percent per year during this period. The decline in productivity reflected a small decrease in output of 0.1 percent per year and a rise in employee hours of 0.3 percent per year. Adversely affecting the industry were cyclical downturns in the economy. This resulted in sizable drops in production in several years and corresponding declines in productivity.

The carburetors, pistons, and valves industry includes establishments primarily engaged in the manufacture of all types of carburetors, pistons and piston rings, and valves for aircraft, motor vehicles, and engines. Establishments in the industry are large, with an average of 182 employees, compared to 53 for all manufacturing.

The change in industry output over the entire 1972-86 period was negligible. However, annual output varied significantly. Approximately three-fourths of the industry's output is purchased by motor vehicle manufacturers. Hence, the level of production in the motor vehicle industry is the primary determinant of industry output. In recent years, the production of carburetors has declined sharply as more new cars are equipped with electronic fuel injection systems.

Although productivity has been dampened by a lack of demand, the industry has introduced some new technology. Changes have centered on improvements in metalworking machinery and the automatic movement and positioning of work. Labor requirements have been lowered due to reduced material handling.

The major reason for the lack of diffusion of the newer technologies throughout the industry is weak and volatile demand, a byproduct of the irregular pattern of motor vehicle production. Also contributing to the weakness in demand is strong foreign competition.

Variety stores (SIC 5331). Productivity, as measured by output per hour of all persons, in the variety stores industry decreased at an average annual rate of 0.5 percent from 1967 to 1986, compared with an average annual rate of increase of 1.0 percent for the total nonfarm business sector of the economy during the same period. The overall decline in productivity reflects an average annual decrease in output of 2.6 percent and a slightly slower rate of decrease in hours of 2.1 percent. The overall decline in industry productivity reflected a sharp falloff from 1972 to 1977; there were modest increases both before and after this period.

Productivity growth has been hindered by a number of factors. Among these is declining industry output. Output has been falling since its peak in 1972. Also, although larger firms in the industry have been introducing sophisticated electronic technology, many firms cannot afford such investments and therefore have been unable to use computer technology to improve the efficiency of store operations.

Because variety stores handle such a wide assortment of merchandise, they face rigorous competition from other retailers. Many competitors have expanded their merchandise offerings, limiting the available market and possible economies of scale for the variety store industry. The low prices offered by many competitors have held down variety store revenues and reduced the capital available for investment in computer technology.

Variety stores have also been adversely affected by the inability to locate in areas of high sales volume. They have generally been unable to afford the rents associated with major shopping mall locations and consequently have been unable to take advantage of the heavy traffic which flows through these shopping centers. This has had a negative effect on their merchandise turnover.

Table 1. Selected industries: Employment, 1987, and average annual rates of change in output per employee hour, 1982–87

SIC Code	Industry	Employment, 1987 (thousands)			Output per employee hour Average annual rate of change, 1982–87 (percent)[1]		
		All employees	Production workers	Non-Production workers	All employees	Production workers	Non-production workers[2]
	Mining						
1011	Iron mining, crude ore	6	5	1	18.9	15.8	27.8
1011	Iron mining, usable ore	6	5	1	18.9	15.8	27.8
1021	Copper mining, crude ore	14	11	3	13.3	11.0	20.4
1021	Copper mining, recoverable metal	14	11	3	14.9	12.6	22.1
111,121	Coal mining	163	133	30	8.0	7.8	8.9
121	Bituminous coal and lignite mining	161	131	30	7.9	7.7	9.0
14	Nonmetallic minerals, except fuels	110	84	26	3.7	3.2	5.0
142	Crushed and broken stone	40	32	8	1.3	0.8	3.3
	Manufacturing						
2011,13	Red meat products	216	173	43	0.4	0.1	1.4
2011	Meat packing plants	136	114	22	0.8	0.3	3.6
2013	Sausages and other prepared meats	80	59	21	-0.4	-0.4	-0.5
2016,17	Poultry dressing and processing	169	153	16	[3]0.4	[3]0.6	[3]-1.6
2026	Fluid milk	81	40	41	3.8	([4])	([4])
203	Preserved fruits and vegetables	242	199	43	[3]2.0	[3]2.2	[3]0.8
2033	Canned fruits and vegetables	91	67	14	[3]4.8	[3]5.2	[3]2.0
204	Grain mill products	126	87	39	[3]5.4	[3]6.0	[3]4.0
2041,45	Flour (inc. flour mixes) & other grains	32	22	10	[3]4.0	[3]4.5	[3]2.5
2041	Flour and other grain mill products	23	15	8	4.8	5.4	3.0
2043	Cereal breakfast foods	20	15	5	[3]4.3	[3]4.4	[3]4.1
2044	Rice milling	6	4	2	2.9	2.9	2.8
2046	Wet corn milling	9	6	3	[3]12.1	[3]12.9	[3]10.0
2047,48	Prepared feeds for animals and fowls	60	39	21	[3]3.5	[3]4.9	[3]1.2
205	Bakery products	209	127	82	[3]2.2	[3]2.1	[3]2.4
2061,62,63	Sugar	22	17	5	6.2	6.3	5.7
2061,62	Raw and refined cane sugar	13	9	4	5.6	5.5	6.4
2063	Beet sugar	9	8	1	7.3	7.7	5.2
2082	Malt beverages	40	25	15	4.5	3.3	8.0
2086	Bottled and canned soft drinks	120	39	81	6.5	6.0	6.8
2111,21,31	All tobacco products	46	35	11	3.5	4.5	-0.2
2111,31	Cigarettes, chewing and smoking tobacco	42	32	10	3.9	4.9	0.8
2121	Cigars	4	3	1	1.2	2.7	-7.7
2211,21	Cotton and synthetic broad woven fabrics	188	169	19	3.4	2.8	7.7
2251,52	Hosiery	71	64	7	1.0	0.9	1.8
2281	Nonwool yarn mills	82	74	8	3.7	3.4	7.1
2311	Men's and boys' suits and coats	58	50	8	4.5	4.9	2.2
2421	Sawmills and planing mills, general	164	144	20	6.0	5.7	8.1
2431	Millwork	100	81	19	[3]0.7	[3]-0.3	[3]4.6
2434	Wood kitchen cabinets	70	57	13	[3]-2.5	[3]-3.8	[3]2.7
2435,36	Veneer and plywood	62	55	7	[3]2.4	[3]1.4	[3]11.0
2435	Hardwood veneer and plywood	24	21	3	[3]4.7	[3]4.1	[3]9.1
2436	Softwood veneer and plywood	38	34	4	[3]1.2	([3]),([5])	[3]13.0
251	Household furniture	308	260	48	2.1	1.6	4.8
2511,17	Wood household furniture	146	126	18	[3]2.7	[3]2.1	[3]7.2
2512	Upholstered household furniture	99	83	16	[3]2.1	[3]2.2	[3]1.6
2514	Metal household furniture	26	22	4	[3]5.1	[3]4.6	[3]7.0
2515	Mattresses and bedsprings	28	22	6	3.7	3.4	4.8
252	Office furniture	67	51	16	2.3	2.9	0.8
2521	Wood office furniture	33	26	7	[3]0.9	[3]1.0	[3]0.9
2522	Metal office furniture	34	26	8	[3]3.0	[3]3.5	[3]1.8
2611,21,31,61	Paper, paperboard, and pulp mills	245	186	59	4.6	4.6	4.2
2643	Paper and plastic bags	52	41	11	[3]3.8	[3]3.6	[3]4.0
2651	Folding paperboard boxes	45	35	10	-1.2	-1.4	-0.2
2653	Corrugated and solid fiber boxes	110	83	27	3.1	2.5	4.8
281	Industrial inorganic chemicals	130	67	63	[3]4.9	[3]5.8	[3]3.2
2812	Alkalies and chlorine	11	7	4	[3]16.1	[3]15.2	[3]18.1
2816	Inorganic pigments	10	6	4	[3]9.8	[3]9.1	[3]11.0

See footnotes at end of table.

Table 1. Selected industries: Employment, 1987, and average annual rates of change in output per employee hour, 1982–87—Continued

SIC Code	Industry	Employment, 1987 (thousands)			Output per employee hour Average annual rate of change, 1982–87 (percent)[1]		
		All employees	Production workers	Non-Production workers	All employees	Production workers	Non-production workers[2]
	Manufacturing—Continued						
2819 Part	Industrial inorganic chemicals, n.e.c.	87	48	39	3.0	3.9	1.5
2823,24	Synthetic fibers	77	56	21	7.6	7.0	9.2
2834	Pharmaceutical preparations	170	77	93	2.7	4.3	(4)
2841	Soaps and detergents	44	28	16	1.3	1.6	0.6
2844	Cosmetics and other toiletries	68	47	21	2.5	1.5	4.5
2851	Paints and allied products	62	31	31	.7	.1	4.4
2869	Industrial organic chemicals, n.e.c.	118	63	55	7.2	6.7	8.0
287	Agricultural chemicals	52	32	20	3.7	3.7	3.8
2873	Nitrogenous fertilizers	11	7	4	4.7	4.1	5.8
2874	Phosphatic fertilizers	11	8	3	4.0	5.5	0.8
2875	Fertilizers, mixing only	11	6	5	4.8	4.3	5.7
2879	Pesticides & agricultural chemicals, n.e.c.	19	12	7	2.1	1.0	3.8
2911	Petroleum refining	127	81	46	9.3	8.6	10.8
3011	Tires and inner tubes	86	62	24	4.9	4.5	6.3
3079	Miscellaneous plastic products	600	472	128	1.2	0.7	3.1
314	Footwear	85	73	12	0.2	0.2	0.6
3221	Glass containers	45	40	5	6.6	6.3	8.9
3241	Hydraulic cement	21	16	5	8.2	8.6	7.1
325	Structural clay products	38	30	8	3.0	2.4	5.2
3251,53,59	Clay construction products	31	25	6	2.8	2.3	5.1
3251	Brick and structural clay tile	18	14	4	3.6	2.8	7.2
3253	Ceramic wall and floor tile	11	9	2	2.3	2.2	2.6
3255	Clay refractories	7	5	2	4.0	3.7	5.2
3271,72	Concrete products	90	67	23	3.4	2.9	4.7
3273	Ready-mixed concrete	101	82	19	2.4	(4)	(4)
331	Steel	269	204	65	9.6	8.9	11.6
3321	Gray iron foundries	81	66	15	2.3	1.8	4.6
3324,25	Steel foundries	41	31	10	1.7	0.9	4.3
3325	Steel foundries, n.e.c.	27	20	7	3.3	2.1	7.5
3331,32,33	Primary copper, lead, and zinc	7	6	1	12.6	11.1	19.8
3331	Primary copper	6	5	1	14.1	13.2	18.2
3334	Primary aluminum	21	15	6	6.5	6.1	7.8
3351	Copper rolling and drawing	23	18	5	4.3	3.4	7.4
3353,54,55	Aluminum rolling and drawing	80	57	23	6.3	5.9	7.9
3411	Metal cans	45	39	6	2.3	2.1	2.9
3423	Hand and edge tools	41	31	10	0.5	1.3	2.0
3433	Heating equipment, except electric	25	17	8	1.4	0.1	4.2
3441	Fabricated structural metal	77	55	22	4.8	4.7	5.1
3442	Metal doors, sash, and trim	91	68	23	2.3	2.0	3.1
3465,66,69	Metal stampings	198	159	39	2.1	1.3	5.6
3465	Automotive stampings	97	82	15	2.5	1.7	6.8
3469	Metal stampings, n.e.c.	96	73	23	1.5	1.1	2.9
3494	Valves and pipe fittings	80	53	27	0.7	0.2	1.8
3498	Fabricated pipe and fittings	20	15	5	0.7	1.1	0.4
3519	Internal combustion engines, n.e.c.	63	43	20	7.6	5.5	12.0
352	Farm and garden machinery	94	63	31	2.3	0.5	6.3
3523	Farm machinery and equipment	68	43	25	1.3	(3),(5)	3.9
3524	Lawn and garden equipment	26	20	6	4.7	2.7	10.8
3531	Construction machinery and equipment	78	47	31	3.3	1.4	6.7
3532	Mining machinery	17	10	7	3.7	3.0	4.7
3533	Oilfield machinery and equipment	37	22	15	-5.6	-3.5	-9.2
3541,42	Machine tools	62	39	23	3.7	2.9	4.9
3541	Metal-cutting machine tools	45	28	17	4.1	3.9	4.3
3542	Metal-forming machine tools	17	11	6	4.0	2.3	7.3
3545	Machine tool accessories	52	37	15	2.5	1.0	5.9
3561,63	Pumps and compressors	64	37	27	3.2	3.0	3.5
3561	Pumps and pumping equipment	43	25	18	3.2	2.8	3.9
3562	Ball and roller bearings	41	32	9	3.7	2.8	6.4
3563	Air and gas compressors	21	12	9	3.1	3.6	2.5

See Footnotes at end of table.

Table 1. Selected industries: Employment, 1987, and average annual rates of change in output per employee hour, 1982–87—Continued

SIC Code	Industry	Employment, 1987 (thousands)			Output per employee hour: Average annual rate of change, 1982–87 (percent)[1]		
		All employees	Production workers	Non-Production workers	All employees	Production workers	Non-production workers[2]
	Manufacturing—Continued						
3585	Refrigeration and heating equipment	125	92	33	[3]0.6	[3]–0.9	[3]4.0
3592	Carburetors, pistons, rings and valves	31	25	6	[3]5.3	[3]4.7	[3]7.4
3612	Transformers	49	36	13	–0.7	–2.2	3.6
3613	Switchgear and switchboard apparatus	59	42	17	1.5	1.2	2.3
3621	Motors and generators	87	67	20	2.5	2.4	2.7
3631,32,33,39	Major household appliances	89	73	16	4.9	3.8	9.4
3631	Household cooking equipment	22	18	4	8.5	7.2	12.4
3632	Household refrigerators and freezers	29	24	5	2.4	1.6	7.4
3633	Household laundry equipment	23	18	5	4.2	3.3	9.0
3639	Household appliances, n.e.c.	15	13	2	3.9	3.5	5.8
3641	Electric lamps	26	22	4	4.8	5.4	0.9
3645,46,47,48	Lighting fixtures	75	56	19	5.2	5.4	4.6
3651	Radio and television receiving sets	62	41	21	12.5	12.0	14.2
3674	Semiconductors and related devices	247	96	151	3.6	5.1	2.7
371	Motor vehicles and equipment	865	672	193	4.8	3.6	8.4
3825	Instruments to measure electricity	102	51	51	[3]1.2	[3]2.2	[3]–0.1
	Other						
401 Class I	Railroad transportation, revenue traffic	271	[6]231	[7]40	11.1	[6]11.1	[7]11.4
401 Class I	Railroad transportation, car-miles	271	[6]231	[7]40	7.4	[6]7.4	[7]7.7
4111,413,414 Parts	Bus carriers, class I	20	[4]	[4]	[3]–3.4	[4]	[4]
4213 Part	Intercity trucking[8]	448	[4]	[4]	[3]4.4	[4]	[4]
4213 Part	Intercity trucking (general freight)[8]	293	[4]	[4]	[3]5.2	[4]	[4]
4511,4521 Part	Air transportation[8]	457	[4]	[4]	4.4	[4]	[4]
4612,13	Petroleum pipelines	18	[6]13	[4]	3.7	[6]2.5	[4]
4811	Telephone communications	905	[6]668	[7]237	4.7	[4]	[4]
491,92,93	Gas and electric utilities	817	[6]641	[7]176	0.6	[6]1.1	[4]
491,493 Part	Electric utilities	605	[4]	[4]	2.2	[5]	[4]
492,493 Part	Gas utilities	212	[4]	[4]	–3.4	[4]	[4]
5251	Hardware stores[9]	176	[4]	[4]	6.6	[4]	[4]
5311	Department stores	2033	[4]	[4]	4.1	[4]	[4]
5331	Variety stores[9]	232	[4]	[4]	[3]–2.5	[4]	[4]
54	Retail food stores[9]	3187	[4]	[4]	–0.5	[4]	[4]
5411	Grocery stores[9]	2743	[4]	[4]	–0.8	[4]	[4]
546	Retail bakeries[9]	192	[4]	[4]	–1.6	[4]	[4]
5511	Franchised new car dealers	922	[4]	[4]	0.8	[4]	[4]
5541	Gasoline service stations[9]	681	[4]	[4]	5.4	[4]	[4]
56	Apparel and accessory stores[9]	1242	[4]	[4]	3.5	[4]	[4]
5611	Men's and boys' clothing stores[9]	116	[4]	[4]	3.6	[4]	[4]
5621	Women's ready-to-wear stores[9]	419	[4]	[4]	4.2	[4]	[4]
5651	Family clothing stores[9]	281	[4]	[4]	–2.0	[4]	[4]
5661	Shoe stores[9]	233	[4]	[4]	3.3	[4]	[4]
57	Furniture, furnishings & equipment stores[9]	946	[4]	[4]	6.0	[4]	[4]
571	Furniture and home furnishings stores[9]	558	[4]	[4]	3.3	[4]	[4]
572,73	Appliance, radio, TV, and music stores[9]	388	[4]	[4]	10.0	[4]	[4]
572	Household appliance stores[9]	106	[4]	[4]	13.7	[4]	[4]
573	Radio, television, and music stores[9]	282	[4]	[4]	8.1	[4]	[4]
58	Eating and drinking places[9]	6460	[4]	[4]	–1.6	[4]	[4]
5912	Drug and proprietary stores[9]	595	[4]	[4]	–0.7	[4]	[4]
5921	Liquor stores[9]	178	[4]	[4]	–2.4	[4]	[4]
602	Commercial banking	1563	[6]1122	[7]441	[3]4.5	[4]	[4]
7011	Hotels, motels, and tourist courts[10]	1558	[4]	[4]	–0.5	[4]	[4]
721	Laundry and cleaning services[9]	469	[4]	[4]	–1.8	[4]	[4]
7231,41	Beauty and barber shops[10]	770	[4]	[4]	–2.7	[4]	[4]
7231	Beauty shops[10]	687	[4]	[4]	–3.5	[4]	[4]
753	Automotive repair shops[9]	785	[4]	[4]	2.6	[4]	[4]

[1] Based on the linear least squares trends of the logarithms of the index numbers.

[2] Rates of change for nonproduction worker hours are subject to a wider margin of error than other rates shown.

[3] 1982-86.

[4] Not available.

[5] Less than 0.05 percent.

[6] Nonsupervisory personnel.

[7] Supervisory personnel and force account construction workers.

[8] Output per employee.

[9] All persons include paid employees, unpaid family workers, and the self-employed.

[10] All persons include paid employees and the self-employed.

n.e.c. = Not elsewhere classified.

Table 2. Iron mining, crude ore (SIC 1011): Indexes of output per employee hour and ouput per employee, 1963–87
(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	83.3	72.9	141.9	77.3	69.0	122.6
1964	89.6	77.8	160.3	85.5	75.7	142.3
1965	85.3	74.4	147.9	82.8	73.7	133.9
1966	84.4	74.3	139.1	84.0	75.8	126.5
1967	86.1	76.2	137.9	85.3	77.5	123.6
1968	93.5	84.3	137.5	92.6	85.1	126.6
1969	99.7	90.5	141.2	97.4	90.6	126.0
1970	99.9	90.2	146.4	98.1	91.4	126.7
1971	98.6	89.4	139.6	93.9	87.6	120.1
1972	106.0	98.2	153.4	103.2	96.9	129.4
1973	113.2	103.1	159.2	112.2	104.3	146.6
1974	107.9	98.1	152.2	110.6	102.1	149.1
1975	112.7	102.4	158.5	110.8	103.7	140.9
1976	113.5	103.5	157.2	111.3	104.0	141.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	115.5	105.9	156.5	116.7	109.0	149.4
1979	122.7	112.9	164.5	122.9	115.8	151.4
1980	124.7	119.5	142.5	115.6	113.1	124.1
1981	132.8	126.2	156.6	125.3	121.9	136.9
1982	100.9	106.7	87.2	95.8	102.8	78.9
1983	139.0	154.6	107.5	128.8	145.5	95.2
1984	173.3	176.2	165.7	160.4	166.9	143.6
1985	187.9	186.0	193.7	178.9	180.3	174.0
1986	200.3	195.9	213.4	191.7	193.2	186.7
1987 [2]	267.5	255.0	311.4	258.8	255.0	273.4
Average annual percent change:						
1947-87	[3]	4.5	[3]	4.0	4.5	1.6
1982-87	18.9	15.8	27.8	19.6	16.9	27.2

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 3. Iron mining, crude ore (SIC 1011): Indexes of output, employee hours, and employees, 1963–87
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	96.5	115.9	132.3	68.0	124.8	139.9	78.7
1964	109.0	121.6	140.1	68.0	127.5	143.9	76.6
1965	111.1	130.2	149.3	75.1	134.2	150.8	83.0
1966	113.1	134.0	152.2	81.3	134.7	149.3	89.4
1967	113.1	131.4	148.4	82.0	132.6	146.0	91.5
1968	121.3	129.7	143.9	88.2	131.0	142.6	95.8
1969	128.6	129.0	142.1	91.1	132.1	141.9	102.1
1970	132.2	132.3	146.6	90.3	134.7	144.7	104.3
1971	122.6	124.4	137.1	87.8	130.5	139.9	102.1
1972	117.5	106.8	119.7	76.5	113.9	121.3	91.5
1973	127.2	121.2	133.1	86.2	122.3	131.5	93.6
1974	136.4	126.4	139.0	89.6	123.3	133.6	91.5
1975	135.0	119.8	131.8	85.2	121.8	130.2	95.8
1976	141.2	124.4	136.4	89.8	126.9	135.8	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	146.3	126.7	136.1	93.5	125.4	134.2	97.9
1979	157.9	128.7	139.9	96.0	126.5	136.3	104.3
1980	129.4	103.8	108.3	90.8	111.9	114.4	104.3
1981	136.9	103.1	108.5	87.4	109.3	112.3	100.0
1982	65.5	64.9	61.4	75.1	68.4	63.7	83.0
1983	68.8	49.5	44.5	64.0	53.4	47.3	72.3
1984	94.8	54.7	53.8	57.2	59.1	56.8	66.0
1985	86.9	47.3	47.8	45.9	49.7	49.3	51.1
1986	71.5	35.7	36.5	33.5	37.3	37.0	38.3
1987	87.2	32.6	34.2	26.0	33.7	34.2	31.9
Average annual percent change:							
1947-87	.8	[1]	-3.5	[1]	-3.1	-3.5	-.8
1982-87	4.3	-12.2	-9.9	-16.3	-12.6	-10.8	-18.0

[1] Preliminary.
[2] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 4. Iron mining, usable ore (SIC 1011): Indexes of output per employee hour and ouput per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	87.8	76.9	149.7	81.6	72.8	129.4
1964	96.6	83.9	172.8	92.2	81.7	153.4
1965	95.3	83.1	165.2	92.5	82.3	149.5
1966	98.4	86.7	162.2	97.9	88.3	147.5
1967	98.6	87.3	157.9	97.7	88.7	141.5
1968	106.1	95.6	156.0	105.0	96.5	143.6
1969	110.6	100.4	156.6	108.0	100.6	139.8
1970	111.1	100.3	162.8	109.1	101.6	140.9
1971	108.4	98.3	153.5	103.3	96.4	132.0
1972	118.1	107.4	167.8	112.8	105.9	140.4
1973	122.6	111.6	172.4	121.5	113.0	158.8
1974	113.8	103.5	160.5	116.6	107.6	157.2
1975	117.8	107.1	165.6	115.8	108.4	147.3
1976	115.9	105.7	160.6	113.6	106.2	144.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	117.8	108.1	159.7	119.1	111.3	152.5
1979	122.8	113.0	164.7	123.0	116.0	151.6
1980	123.2	118.1	140.9	114.3	111.8	122.6
1981	130.6	124.4	154.1	123.2	119.9	134.7
1982	98.2	103.7	84.8	93.1	100.0	76.7
1983	138.6	154.2	107.2	128.5	145.0	94.9
1984	171.7	174.5	164.2	158.9	165.3	142.3
1985	187.9	186.0	193.7	178.9	180.3	174.0
1986	197.8	193.4	210.7	189.3	190.8	184.3
1987 [2]	262.0	249.7	305.0	253.4	249.7	267.7
Average annual percent change:						
1947-87	[3]	3.4	[3]	2.9	3.4	.6
1982-87	18.9	15.8	27.8	19.7	17.0	27.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

5. Iron mining, usable ore (SIC 1011): Indexes of output, employee hours, and employees, 1963–87
100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	101.8	115.9	132.3	68.0	124.8	139.3	78.7
1964	117.5	121.6	140.1	68.0	127.5	143.9	76.6
1965	124.1	130.2	149.3	75.1	134.2	150.8	83.0
1966	131.9	134.0	152.2	81.3	134.7	149.3	89.4
1968	129.5	131.4	148.4	82.0	132.6	146.0	91.5
1969	137.6	129.7	143.9	88.2	131.0	142.6	95.8
1970	142.7	129.0	142.1	91.1	132.1	141.9	102.1
1971	147.0	132.3	146.6	90.3	134.7	144.7	104.3
1972	134.8	124.4	137.1	87.8	130.5	139.9	102.1
1973	128.5	108.8	119.7	76.6	113.9	121.3	91.5
1974	148.6	121.2	133.1	86.2	122.3	131.5	93.6
1975	143.8	126.4	139.0	89.6	123.3	133.6	91.5
1976	141.1	119.8	131.8	85.2	121.8	130.2	95.8
1977	144.2	124.4	136.4	89.8	126.9	135.8	100.0
1978	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1979	149.3	126.7	138.1	93.5	125.4	134.2	97.9
1980	158.1	128.7	139.9	96.0	128.5	136.3	104.3
1981	127.9	103.8	108.3	90.8	111.9	114.4	104.3
1982	134.7	103.1	108.5	87.4	109.3	112.3	100.0
1983	63.7	64.9	61.4	75.1	68.4	63.7	83.0
1984	68.6	49.5	44.5	64.0	53.4	47.3	72.3
1985	93.9	54.7	53.8	57.2	59.1	56.8	66.0
1986	88.9	47.3	47.8	45.9	49.7	49.3	51.1
1987 [1]	70.6	35.7	36.5	33.5	37.3	37.0	38.3
Average annual percent change:	85.4	32.6	34.2	28.0	33.7	34.2	31.9
1947-87	-.2	[2]	-3.5	[2]	-3.1	-3.5	-.8
1982-87	4.4	-12.2	-9.9	-18.3	-12.8	-10.8	-18.0

[1] Preliminary.
[2] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 6. Copper mining, crude ore (SIC 1021): Indexes of output per employee hour and ouput per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	66.2	61.4	88.1	73.7	68.5	97.3
1964	72.3	67.4	93.9	80.0	74.9	103.4
1965	72.3	66.6	99.0	81.0	74.9	109.2
1966	73.7	67.8	101.8	82.4	76.4	109.7
1967	62.5	64.1	57.7	70.5	71.4	67.7
1968	69.6	70.1	68.0	84.9	85.3	83.5
1969	77.9	73.8	94.4	93.0	88.5	111.1
1970	84.8	80.0	104.1	97.6	93.1	115.2
1971	86.6	85.4	90.5	97.8	96.8	101.1
1972	91.8	86.4	114.2	98.1	93.8	114.9
1973	92.0	85.6	120.4	97.7	92.9	117.3
1974	85.7	82.0	99.9	90.2	86.7	103.1
1975	87.2	86.4	89.6	89.5	88.6	92.3
1976	99.2	98.0	103.1	101.3	100.7	102.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.7	109.3	111.2	113.7	113.4	114.3
1979	109.1	107.2	115.5	119.1	118.0	122.7
1980	99.5	99.0	101.1	105.7	105.1	107.9
1981	102.0	101.1	105.1	110.5	108.9	115.4
1982	106.4	111.3	93.6	107.3	111.7	95.4
1983	129.9	139.4	106.7	135.2	144.2	112.6
1984	140.3	153.2	110.7	151.3	164.9	119.7
1985	164.2	172.8	142.6	177.7	188.8	149.7
1986	195.4	193.8	200.8	209.6	207.8	213.9
1987 [2]	193.1	185.2	222.9	215.2	206.9	247.1
Average annual percent change:						
1947-87	[3]	4.3	[3]	3.5	4.0	1.3
1982-87	13.3	11.0	20.4	15.2	13.1	21.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 7. Copper mining, crude ore (SIC 1021): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output [1]	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	60.8	91.8	99.0	69.0	82.5	88.7	62.5
1964	64.6	89.4	95.9	68.8	80.7	86.3	62.5
1965	72.3	100.0	108.5	73.0	89.3	96.5	66.2
1966	78.2	106.1	115.4	76.8	94.9	102.4	71.3
1967	53.3	85.3	83.1	92.3	75.6	74.6	78.7
1968	71.0	102.0	101.3	104.4	83.6	83.2	85.0
1969	93.0	119.4	126.0	98.5	100.0	105.1	83.7
1970	106.6	125.7	133.2	102.4	109.2	114.5	92.5
1971	99.8	115.2	116.8	110.3	102.0	103.1	98.7
1972	109.2	116.9	126.4	95.6	111.3	116.4	95.0
1973	117.3	127.5	137.0	97.4	120.0	126.2	100.0
1974	117.2	136.7	142.9	117.3	130.0	135.2	113.7
1975	103.8	119.1	120.2	115.8	116.0	117.2	112.5
1976	110.6	111.5	112.9	107.3	109.2	109.8	107.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.5	92.5	92.0	91.3	89.3	89.5	88.8
1979	118.0	108.2	110.1	102.2	99.1	100.0	96.2
1980	94.4	94.9	95.4	93.4	89.3	89.8	87.5
1981	118.3	116.0	117.0	112.6	107.1	108.6	102.5
1982	77.6	72.9	69.7	82.9	72.3	69.5	81.3
1983	76.0	58.5	54.5	71.2	56.2	52.7	67.5
1984	73.4	52.3	47.9	66.3	48.5	44.5	61.3
1985	69.3	42.2	40.1	48.6	39.0	36.7	46.3
1986	72.5	37.0	37.3	36.0	34.5	34.8	33.8
1987 [2]	86.5	44.8	46.7	38.8	40.2	41.8	35.0
Average annual percent change:							
1947-87	2.8	[3]	-1.4	[3]	-.6	-1.1	1.5
1982-87	1.0	-10.9	-9.0	-16.1	-12.4	-10.7	-17.1

[1] Represents output in terms of copper ore sold or treated.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 8. Copper mining, recoverable metal (SIC 1021): Indexes of output per employee hour and ouput per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	81.2	75.3	108.0	90.3	84.0	119.2
1964	85.7	79.9	111.3	94.9	88.8	122.6
1965	83.3	76.8	114.1	93.3	86.3	125.8
1966	83.0	76.3	114.7	92.8	86.0	123.6
1967	69.2	71.0	63.9	78.0	79.1	75.0
1968	73.2	73.7	71.6	89.4	89.8	87.9
1969	80.6	76.3	97.7	96.2	91.5	114.9
1970	85.5	80.7	105.0	98.4	93.9	116.2
1971	82.9	81.8	86.6	93.6	92.6	96.8
1972	88.1	82.9	109.6	94.2	90.0	110.3
1973	85.8	79.9	112.3	91.2	86.7	109.4
1974	75.2	71.9	87.6	79.1	76.0	90.4
1975	77.2	76.5	79.4	79.3	78.5	81.8
1976	94.7	93.5	98.4	96.7	96.2	98.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.7	107.2	109.1	111.5	111.3	112.2
1979	98.2	96.5	104.0	107.3	106.3	110.5
1980	91.6	91.1	93.0	97.3	96.8	99.3
1981	97.7	96.8	100.6	105.8	104.3	110.5
1982	116.2	121.5	102.2	117.2	121.9	104.2
1983	130.9	140.6	107.6	136.3	145.4	113.5
1984	155.4	169.7	122.6	167.6	182.7	132.6
1985	193.1	203.2	167.7	209.0	222.1	176.0
1986	228.9	227.1	235.3	245.5	243.4	250.6
1987 [2]	209.8	201.3	242.3	233.8	224.9	268.6
Average annual percent change:						
1947-87	[3]	3.2	[3]	2.4	2.9	2
1982-87	14.9	12.6	22.1	16.8	14.7	23.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 9. Copper mining, recoverable metal (SIC 1021): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output [1]	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	74.5	91.8	99.0	69.0	82.5	88.7	62.5
1964	76.6	89.4	95.9	68.8	80.7	86.3	62.5
1965	83.3	100.0	108.5	73.0	89.3	96.5	66.2
1966	88.1	106.1	115.4	76.8	94.9	102.4	71.3
1967	59.0	85.3	83.1	92.3	75.6	74.6	78.7
1968	74.7	102.0	101.3	104.4	83.6	83.2	85.0
1969	96.2	119.4	126.0	98.5	100.0	105.1	83.7
1970	107.5	125.7	133.2	102.4	109.2	114.5	92.5
1971	95.5	115.2	116.8	110.3	102.0	103.1	98.7
1972	104.8	118.9	126.4	95.6	111.3	116.4	95.0
1973	109.4	127.5	137.0	97.4	120.0	126.2	100.0
1974	102.8	136.7	142.9	117.3	130.0	135.2	113.7
1975	92.0	119.1	120.2	115.8	116.0	117.2	112.5
1976	105.6	111.5	112.9	107.3	109.2	109.8	107.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.6	92.5	92.9	91.3	89.3	89.5	88.8
1979	106.3	108.2	110.1	102.2	98.1	100.0	96.2
1980	86.9	94.9	95.4	93.4	89.3	89.8	87.5
1981	113.3	116.0	117.0	112.6	107.1	105.6	102.5
1982	84.7	72.9	69.7	82.9	72.3	69.5	81.3
1983	76.6	58.5	54.5	71.2	56.2	52.7	67.5
1984	81.3	52.3	47.9	66.0	48.5	44.5	61.3
1985	81.5	42.2	40.1	48.6	39.0	36.7	46.3
1986	84.7	37.0	37.3	36.0	34.5	34.8	33.8
1987 [2]	94.0	44.8	46.7	38.8	40.2	41.8	35.0
Average annual percent change:							
1947-87	1.8	[3]	-1.4	[3]	-.6	-1.1	-1.5
1982-87	2.4	-10.9	-9.0	-16.1	-12.4	-10.7	-17.1

[1] Represents output in terms of copper recovered from copper ore, old tailings, and precipitates.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 10. Coal mining (SIC 111, 121): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	115.0	110.7	147.5	106.7	103.1	133.3
1964	121.6	117.4	151.7	113.5	109.8	140.3
1965	128.3	125.0	152.8	122.6	119.6	144.7
1966	134.7	132.0	153.4	130.7	128.2	147.1
1967	137.4	134.4	155.9	133.1	130.6	149.1
1968	143.5	141.8	155.1	137.6	136.0	147.7
1969	144.7	142.4	157.9	137.4	135.6	149.4
1970	141.1	137.5	165.4	137.1	133.8	159.7
1971	129.5	130.1	126.2	125.1	125.9	120.6
1972	124.4	121.4	143.5	121.4	119.1	136.1
1973	125.5	123.7	137.2	119.8	118.3	128.4
1974	122.5	121.3	130.0	109.9	109.1	115.3
1975	105.3	104.7	109.2	99.6	99.2	102.3
1976	103.1	102.8	104.7	98.4	98.4	98.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.4	109.6	91.6	103.2	106.7	86.9
1979	99.4	101.3	90.2	97.3	99.6	86.2
1980	112.5	115.3	98.9	108.8	112.1	93.2
1981	122.2	125.6	105.9	118.4	121.9	100.9
1982	119.2	123.8	98.5	114.0	118.7	92.5
1983	136.1	143.6	105.5	129.9	137.8	98.1
1984	151.3	158.2	120.8	147.1	155.0	114.3
1985	154.0	160.0	127.4	151.7	158.4	121.7
1986	167.3	173.3	139.6	162.6	169.6	131.7
1987 [2]	179.7	186.3	149.7	180.9	188.7	146.1
Average annual percent change:						
1947-87	[3]	3.0	[3]	3.1	3.6	-.7
1982-87	8.0	7.8	8.9	9.0	8.8	9.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 11. Coal mining (SIC 111, 121): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	70.5	61.3	63.7	47.8	66.1	68.4	52.9
1964	74.2	61.0	63.2	48.9	65.4	67.6	52.9
1965	77.0	60.0	61.6	50.4	62.8	64.4	53.2
1966	79.6	59.1	60.3	51.9	60.9	62.1	54.1
1967	82.0	59.7	61.0	52.6	61.6	62.8	55.0
1968	80.8	56.3	57.0	52.1	58.7	59.4	54.7
1969	82.6	57.1	58.0	52.3	60.1	60.9	55.3
1970	88.3	62.6	64.2	53.4	64.4	66.0	55.3
1971	80.8	62.4	62.1	64.0	64.6	64.2	67.0
1972	86.7	69.7	71.4	60.4	71.4	72.8	63.7
1973	86.0	68.5	69.5	62.7	71.8	72.7	67.0
1974	87.6	71.5	72.2	67.4	79.7	80.3	76.0
1975	94.0	89.3	89.8	86.1	94.4	94.8	91.9
1976	98.3	95.3	95.6	93.9	99.9	99.9	99.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.0	90.2	87.6	104.8	93.0	90.0	110.5
1979	111.8	112.5	110.4	124.0	114.9	112.3	129.7
1980	118.9	105.7	103.1	120.2	109.3	106.1	127.6
1981	117.9	96.5	93.9	111.3	99.6	96.7	116.8
1982	119.7	100.4	96.7	121.5	105.0	100.8	129.4
1983	111.6	82.0	77.7	105.6	85.9	81.0	113.8
1984	127.7	84.4	80.7	105.7	86.8	82.4	111.7
1985	126.1	81.9	78.8	99.0	83.1	79.6	103.6
1986	127.0	75.9	73.3	91.0	78.1	74.9	96.4
1987 [1]	130.8	72.8	70.2	87.4	72.3	69.3	89.5
Average annual percent change:							
1947-87	1.3	[2]	-1.7	[2]	-1.8	-2.2	2.0
1982-87	2.4	-5.2	-5.0	-6.0	-6.1	-5.9	-6.7

[1] Preliminary.
[2] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 12. Bituminous coal and lignite mining (SIC 121): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	114.9	110.7	147.3	106.8	103.3	133.9
1964	122.0	118.1	148.8	114.8	111.0	142.2
1965	129.3	126.0	151.5	124.7	121.5	146.7
1966	135.2	132.6	151.1	132.2	129.7	147.6
1967	138.0	135.0	157.0	134.3	131.8	151.0
1968	144.0	142.2	155.6	138.4	137.0	148.3
1969	145.3	143.0	159.0	138.9	137.0	150.7
1970	142.3	138.4	167.7	138.6	135.2	162.1
1971	131.0	131.4	128.3	126.2	127.0	122.4
1972	124.6	121.6	144.2	121.6	119.3	136.9
1973	126.3	124.4	137.6	120.2	118.7	129.1
1974	123.0	121.8	130.7	110.1	109.3	115.3
1975	105.2	104.5	109.7	99.5	98.9	102.5
1976	103.0	102.7	104.7	98.4	98.3	99.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.7	109.8	92.1	103.3	106.9	87.0
1979	99.6	101.4	90.1	97.5	99.8	86.1
1980	112.6	115.5	98.8	108.9	112.1	93.0
1981	122.7	126.2	106.2	118.9	122.6	101.2
1982	120.0	124.8	98.7	114.9	119.8	92.9
1983	136.9	144.6	105.3	131.0	138.9	98.4
1984	152.3	159.5	121.9	148.6	158.4	115.3
1985	154.6	160.5	128.1	152.8	159.5	123.0
1986	168.2	174.4	140.7	164.1	170.9	133.5
1987 [2]	180.6	187.2	150.0	182.1	189.9	147.2
Average annual percent change:						
1947-87	[3]	3.1	[3]	3.1	3.5	-.9
1982-87	7.9	7.7	9.0	9.0	8.8	9.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 13. Bituminous coal and lignite mining (SIC 121): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	66.3	57.7	59.9	45.0	62.1	64.2	49.5
1964	70.4	57.7	59.6	47.3	61.3	63.4	49.5
1965	74.1	57.3	58.8	48.9	59.4	61.0	50.5
1966	77.2	57.1	58.2	51.1	58.4	59.5	52.3
1967	79.9	57.9	59.2	50.9	59.5	60.6	52.9
1968	78.9	54.8	55.5	50.7	57.0	57.6	53.2
1969	81.1	55.8	56.7	51.0	58.4	59.2	53.8
1970	87.2	61.3	63.0	52.0	62.9	64.5	53.8
1971	79.9	61.0	60.8	62.3	63.3	62.9	65.3
1972	86.1	69.1	70.8	59.7	70.8	72.2	62.9
1973	85.6	67.8	68.8	62.2	71.2	72.1	66.3
1974	87.3	71.0	71.7	66.8	79.3	79.9	75.7
1975	93.8	89.2	89.8	85.5	94.3	94.8	91.5
1976	98.2	95.3	95.6	93.8	99.8	99.9	99.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.2	90.2	87.6	104.4	93.1	90.0	110.6
1979	112.3	112.8	110.7	124.6	115.2	112.5	130.4
1980	119.1	105.8	103.1	120.5	109.4	106.2	128.0
1981	118.4	96.5	93.8	111.5	99.6	96.6	117.0
1982	120.6	100.5	96.6	122.2	105.0	100.7	129.8
1983	112.5	82.2	77.8	106.8	85.9	81.0	114.3
1984	129.0	84.7	80.9	105.8	86.8	82.5	111.9
1985	127.1	82.2	79.2	99.2	83.2	79.7	103.3
1986	128.2	76.2	73.5	91.1	78.1	75.0	96.0
1987 [1]	132.0	73.1	70.5	88.0	72.5	69.5	89.7
Average annual percent change:							
1947-87	1.7	[2]	-1.3	[2]	-1.3	-1.8	2.7
1982-87	2.4	-5.1	-4.9	-6.0	-6.0	-5.9	-6.8

[1] Preliminary.
[2] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 14. Nonmetallic minerals, except fuels (SIC 14): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	70.3	67.5	83.3	70.5	67.5	84.3
1964	73.6	70.9	86.5	74.7	71.7	88.8
1965	75.2	72.0	90.6	77.2	73.8	94.2
1966	78.9	75.4	94.9	80.9	77.4	97.4
1967	77.9	75.2	89.5	79.1	76.3	91.9
1968	84.7	81.7	97.2	85.2	82.4	98.5
1969	86.9	83.8	100.9	88.9	85.8	103.6
1970	89.7	86.8	102.2	89.9	87.2	102.5
1971	89.1	87.1	96.8	89.6	87.7	97.7
1972	92.6	90.7	100.0	92.4	91.1	98.5
1973	97.2	96.0	101.6	99.4	98.2	105.4
1974	93.6	92.9	96.1	95.0	93.8	99.8
1975	90.6	91.6	86.5	89.4	89.6	88.9
1976	96.2	96.4	95.1	95.2	95.5	94.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.8	104.4	106.2	105.3	104.9	106.7
1979	102.7	102.4	103.6	103.7	103.4	105.1
1980	96.5	98.0	91.3	94.6	95.8	90.5
1981	94.7	98.1	83.4	91.6	94.6	81.5
1982	89.3	93.5	76.1	85.7	89.6	73.9
1983	98.2	102.6	84.4	95.9	100.3	82.2
1984	105.5	109.1	93.5	105.3	109.3	92.5
1985	107.5	111.4	94.5	106.8	111.2	93.0
1986	108.2	112.0	96.0	107.4	111.8	93.8
1987 [2]	107.9	110.5	98.9	109.2	112.5	98.5
Average annual percent change:						
1954-87	[3]	2.5	[3]	2.1	2.5	5
1982-87	3.7	3.2	5.0	4.6	4.3	5.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 15. Nonmetallic minerals, except fuels (SIC 14): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	71.1	101.2	105.4	85.4	100.9	105.3	84.3
1964	74.9	101.7	105.6	86.6	100.3	104.5	84.3
1965	79.7	106.0	110.7	88.0	103.2	108.0	84.6
1966	84.5	107.1	112.0	89.0	104.5	109.2	86.8
1967	81.6	104.8	108.5	91.2	103.2	107.0	88.8
1968	85.5	101.0	104.6	88.0	100.3	103.7	86.8
1969	88.2	101.5	105.2	87.4	99.2	102.8	85.1
1970	89.0	99.2	102.5	87.1	99.0	102.1	86.8
1971	88.8	99.7	102.0	91.7	99.1	101.2	90.9
1972	92.7	100.1	102.2	92.7	100.3	101.8	94.1
1973	101.8	104.7	106.0	100.2	102.4	103.7	96.6
1974	99.8	106.6	107.4	103.8	105.1	106.4	100.0
1975	90.0	99.3	98.2	104.0	100.7	100.5	101.2
1976	94.2	97.9	97.7	99.1	98.9	98.6	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.6	102.7	103.1	101.3	102.2	102.6	100.8
1979	110.6	107.9	108.2	107.0	106.8	107.2	105.4
1980	100.2	103.8	102.2	109.7	105.9	104.6	110.7
1981	93.7	98.9	95.5	112.3	102.3	99.0	114.9
1982	81.2	90.9	86.8	106.7	94.7	90.6	109.9
1983	86.3	87.9	84.1	102.3	90.0	86.0	105.0
1984	98.6	93.5	90.4	105.4	93.6	90.2	106.6
1985	101.5	94.4	91.1	107.4	95.0	91.3	109.1
1986	101.6	93.9	90.7	105.8	94.6	90.9	108.3
1987 [1]	103.4	95.8	93.6	104.5	94.7	91.9	105.0
Average annual percent change:							
1954-87	2.0	[2]	-.4	[2]	-.1	-.4	1.5
1982-87	5.1	1.4	1.8	[3]	.5	.7	-.3

[1] Preliminary.
[2] Data not available.
[3] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 16. Crushed and broken stone (SIC 142): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	61.7	60.3	69.7	63.2	61.8	70.6
1964	66.6	65.3	74.1	68.4	67.0	76.1
1965	69.9	68.0	81.2	73.6	71.7	84.4
1966	74.2	72.4	84.9	78.0	76.4	87.0
1967	74.0	72.9	79.9	77.0	76.0	82.1
1968	80.5	79.1	87.7	83.2	82.0	88.9
1969	82.2	80.6	91.8	86.2	84.7	94.3
1970	83.1	82.6	85.3	84.9	84.8	85.6
1971	80.9	81.3	78.9	83.3	84.0	79.7
1972	85.5	84.8	88.6	86.2	86.0	87.5
1973	94.0	93.9	94.6	97.7	97.7	98.0
1974	92.1	92.7	88.8	95.2	95.8	92.2
1975	91.4	93.7	81.8	90.1	91.5	84.1
1976	93.7	94.3	90.6	93.3	94.1	89.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	107.1	114.1	109.8	108.8	114.7
1979	106.9	105.4	114.7	109.8	108.5	116.5
1980	101.3	101.1	102.5	100.6	100.4	101.6
1981	95.7	99.0	87.1	93.7	95.7	85.1
1982	94.1	98.6	77.0	91.2	95.6	74.7
1983	103.9	109.6	82.8	102.2	108.1	80.6
1984	105.8	109.8	89.9	107.2	111.9	88.8
1985	104.5	106.5	95.4	106.3	109.3	93.9
1986	104.9	107.4	94.4	106.8	110.4	92.3
1987 [2]	102.7	106.1	88.3	106.5	111.4	87.9
Average annual percent change:						
1958-87	2.5	2.7	1.3	2.4	2.7	1.2
1982-87	1.3	.8	3.3	2.6	2.3	3.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 17. Crushed and broken stone (SIC 142): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	66.4	107.7	110.2	95.3	105.1	107.4	94.0
1964	70.5	105.8	108.0	95.1	103.1	105.3	92.6
1965	76.8	109.9	113.0	94.6	104.4	107.1	91.0
1966	81.8	110.2	113.0	96.4	104.9	107.1	94.0
1967	78.4	106.0	107.6	98.1	101.8	103.1	95.5
1968	83.6	103.9	105.7	95.3	100.5	101.9	94.0
1969	87.3	106.2	108.3	95.1	101.3	103.1	92.6
1970	88.2	106.2	106.8	103.4	103.9	104.0	103.0
1971	89.2	110.2	109.7	113.0	107.1	106.2	111.9
1972	94.0	110.0	110.9	105.8	109.0	109.3	107.4
1973	108.2	115.1	115.2	114.4	110.7	110.7	110.4
1974	107.3	116.5	115.7	120.9	112.7	112.0	116.4
1975	94.1	102.9	100.4	115.0	104.4	102.8	111.9
1976	93.8	100.1	99.5	103.5	100.5	99.7	104.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.5	101.1	102.2	98.0	99.7	100.6	95.5
1979	114.8	107.4	108.9	100.1	104.6	105.8	98.5
1980	101.6	100.3	100.5	99.1	101.0	101.2	100.0
1981	88.9	91.9	89.8	102.1	94.9	92.9	104.5
1982	80.3	85.3	81.4	104.3	88.0	84.0	107.5
1983	87.9	84.6	80.2	106.2	86.0	81.3	109.0
1984	96.8	91.5	88.2	107.7	90.3	86.5	109.0
1985	102.3	97.9	96.1	107.2	96.2	93.6	109.0
1986	104.7	99.8	97.5	110.9	98.0	94.8	113.4
1987 [1]	107.6	104.8	101.4	121.8	101.0	96.6	122.4
Average annual percent change:							
1958-87	2.0	-.5	-.7	.6	-.4	-.7	.7
1982-87	6.0	4.7	5.2	2.6	3.3	3.5	2.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics supplemented with data from the Mine Safety and Health Administration, U.S. Department of Labor.

Table 18. Red meat products (SIC 2011, 2013): Indexes of output per employee hour and output per employee, 1967–87
(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index						
1967	74.8	76.5	69.0	76.3	78.4	69.7
1968	76.6	76.6	76.5	76.8	78.5	71.2
1969	75.7	76.1	74.3	76.0	77.8	70.3
1970	77.3	77.0	78.5	78.1	79.9	75.4
1971	79.3	78.1	84.6	80.6	80.0	82.9
1972	85.0	84.1	88.7	85.3	84.5	86.6
1973	82.8	83.0	81.7	82.5	82.6	82.0
1974	84.5	84.6	84.4	85.6	85.8	84.9
1975	84.4	85.0	82.2	84.5	85.0	82.6
1976	93.4	93.6	92.2	94.3	94.8	92.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.8	98.7	99.4	98.3	97.9	99.4
1979	101.7	100.8	104.9	101.9	101.1	104.9
1980	107.0	106.0	111.3	106.3	104.9	111.3
1981	107.9	106.3	114.9	107.5	105.6	114.9
1982	112.3	110.9	117.6	111.1	109.5	117.6
1983	115.9	115.0	119.5	115.2	114.1	119.5
1984	117.0	115.3	123.6	115.7	113.6	123.6
1985	119.5	117.6	127.1	118.8	116.7	127.1
1986	117.3	114.9	127.0	116.0	113.2	127.0
1987 [2]	114.0	111.5	124.6	114.4	111.7	124.6
Average annual percent change:						
1967-87	2.7	2.6	3.2	2.6	2.4	3.4
1982-87	.4	.1	1.4	.6	.3	1.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 19. Red meat products (SIC 2011, 2013): Indexes of output, employee hours, and employees, 1967–87
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index							
1967	76.5	102.3	100.0	110.8	100.2	97.6	109.7
1968	77.3	100.9	100.9	101.1	100.7	98.5	108.6
1969	76.2	100.6	100.1	102.6	100.2	98.0	108.4
1970	78.3	101.3	101.7	99.8	100.2	99.3	103.8
1971	81.8	103.1	104.8	96.7	101.5	102.3	98.7
1972	84.9	99.9	101.0	95.7	99.5	100.5	95.8
1973	78.2	94.5	94.2	95.7	94.8	94.7	95.4
1974	85.2	100.8	100.7	101.0	99.5	99.3	100.4
1975	82.3	97.5	96.8	100.1	97.4	96.8	99.6
1976	92.8	99.4	99.1	100.6	98.4	97.9	100.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.1	98.3	98.4	97.7	98.8	99.2	97.7
1979	97.9	96.3	97.1	93.3	96.1	96.8	93.3
1980	101.4	94.8	95.7	91.1	95.4	96.7	91.1
1981	100.5	93.1	94.5	87.5	93.5	95.2	87.5
1982	100.7	89.7	90.8	85.6	90.6	92.0	85.6
1983	102.9	88.8	89.5	86.1	89.3	90.2	86.1
1984	104.1	89.0	90.3	84.2	90.0	91.6	84.2
1985	105.6	88.4	89.8	83.1	88.9	90.5	83.1
1986	103.1	87.9	89.7	81.2	88.9	91.1	81.2
1987 [1]	101.6	89.3	91.3	81.7	89.0	91.1	81.7
Average annual percent change:							
1967-87	1.9	-.8	-.7	-1.3	-.7	-.5	-1.5
1982-87	.2	-.2	.1	-1.2	-.3	-.1	-1.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 20. Meat packing plants (SIC 2011): Indexes of output per employee hour and output per employee, 1967–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	73.5	76.1	64.4	74.6	77.4	65.0
1968	76.1	77.1	71.8	76.1	78.8	66.9
1969	76.3	77.6	71.2	76.4	78.9	67.4
1970	78.7	79.0	77.5	79.6	80.9	74.6
1971	79.8	78.6	85.0	81.3	80.9	83.4
1972	87.1	86.0	91.8	87.2	86.2	91.7
1973	88.7	88.7	88.4	88.2	88.0	88.7
1974	88.1	87.6	89.7	89.0	88.7	90.3
1975	88.6	88.6	88.7	88.2	88.0	89.1
1976	97.5	97.4	97.7	97.9	97.9	97.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.9	100.9	100.9	100.4	100.2	100.9
1979	104.6	103.9	108.2	104.6	103.9	108.2
1980	108.9	107.4	115.8	108.3	106.6	115.6
1981	113.9	111.9	123.4	113.3	111.1	123.4
1982	119.5	117.6	129.2	118.6	116.3	129.2
1983	123.4	122.4	128.4	122.5	121.2	128.4
1984	125.6	122.9	138.4	123.6	120.6	138.4
1985	130.1	126.5	148.0	126.6	124.7	148.0
1986	126.2	122.0	149.2	124.4	119.7	149.2
1987 [2]	124.1	119.6	148.9	124.4	119.5	148.9
Average annual percent change:						
1967-87	3.1	2.9	4.2	3.0	2.7	4.4
1982-87	.8	.3	3.6	.9	.4	3.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 21. Meat packing plants (SIC 2011): Indexes of output, employee hours, and employees, 1967–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	81.3	110.5	106.8	126.3	109.0	105.1	125.1
1968	82.3	108.2	106.7	114.6	108.1	104.5	123.0
1969	81.9	107.3	105.5	115.0	107.2	103.8	121.5
1970	84.1	106.8	106.5	108.5	105.7	104.0	112.8
1971	85.9	107.7	109.3	101.0	105.6	106.2	103.0
1972	88.1	101.2	102.4	96.0	101.0	102.2	96.1
1973	83.1	93.7	93.7	94.0	94.5	94.4	93.7
1974	89.2	101.3	101.8	99.4	100.2	100.6	98.8
1975	86.4	97.5	97.5	97.4	98.0	98.2	97.0
1976	97.3	99.8	99.9	99.6	99.4	99.4	99.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.2	97.3	97.3	97.3	97.8	98.0	97.3
1979	99.1	94.7	95.4	91.6	94.7	95.4	91.6
1980	101.3	93.0	94.3	87.5	93.5	95.0	87.5
1981	102.4	89.9	91.5	83.0	90.4	92.2	82.0
1982	101.8	85.2	86.6	78.8	85.8	87.5	78.8
1983	102.3	82.9	83.6	79.7	83.5	84.4	79.7
1984	104.1	82.9	84.7	75.2	84.2	86.3	75.2
1985	105.1	80.8	83.1	71.0	81.7	84.3	71.0
1986	99.8	79.1	81.8	66.9	80.2	83.4	66.9
1987 [1]	98.3	79.2	82.2	66.0	79.0	82.2	66.0
Average annual percent change:							
1967-87	1.4	-1.7	-1.5	-2.7	-1.6	-1.3	-2.9
1982-87	-.7	-1.5	-1.0	-4.1	-1.6	-1.1	-4.1

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 22. Sausages and other prepared meats (SIC 2013): Indexes of output per employee hour and output per employee, 1967–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	79.2	80.1	76.9	81.5	83.1	77.8
1968	78.9	77.2	83.8	78.9	79.2	78.1
1969	73.8	72.9	76.5	74.4	75.1	72.5
1970	72.8	72.0	75.1	73.1	73.5	72.2
1971	78.8	78.2	80.4	78.6	78.4	78.8
1972	80.2	79.8	81.4	81.0	80.8	81.3
1973	69.1	69.7	67.6	69.3	69.8	67.8
1974	76.7	78.2	73.1	77.7	79.3	73.6
1975	74.8	77.0	69.6	75.8	78.4	69.9
1976	84.2	85.6	80.5	85.8	87.9	80.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.8	93.1	95.8	93.1	92.1	95.8
1979	95.0	93.8	98.4	95.4	94.2	98.4
1980	102.3	101.6	104.2	101.4	100.3	104.2
1981	95.0	93.1	100.4	94.5	92.5	100.4
1982	96.5	95.2	100.5	95.7	94.0	100.5
1983	100.0	97.7	106.4	100.2	98.0	106.4
1984	99.5	98.1	103.6	99.3	97.8	103.6
1985	98.8	97.7	101.8	99.7	98.9	101.8
1986	98.7	97.3	102.8	99.1	97.8	102.8
1987 [2]	94.7	93.1	99.2	95.5	94.3	99.2
Average annual percent change:						
1967-87	1.8	1.7	2.0	1.7	1.5	2.2
1982-87	-.4	-.4	-.5	-.1	.1	-.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 23. Sausages and other prepared meats (SIC 2013): Indexes of output, employee hours, and employees, 1967–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	64.3	81.2	80.3	83.6	78.9	77.4	82.7
1968	65.0	82.4	84.2	77.6	82.4	82.1	83.2
1969	61.8	83.7	84.8	80.8	83.1	82.3	85.3
1970	63.5	87.2	88.2	84.6	86.9	86.4	88.0
1971	71.8	91.1	91.8	89.3	91.4	91.6	91.1
1972	77.5	96.6	97.1	95.2	95.7	95.9	95.3
1973	66.7	96.5	95.7	98.7	96.3	95.5	98.4
1974	75.9	98.9	97.1	103.8	97.7	95.7	103.1
1975	72.6	97.3	94.6	104.6	96.0	92.9	104.2
1976	82.4	97.9	96.3	102.3	96.0	93.7	102.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.3	100.5	101.3	98.4	101.3	102.4	98.4
1979	94.8	99.8	101.1	96.3	99.4	100.6	96.3
1980	101.5	99.2	99.9	97.4	100.1	101.2	97.4
1981	95.7	100.7	102.8	95.3	101.3	103.5	95.3
1982	97.9	101.4	102.8	97.4	102.3	104.1	97.4
1983	103.6	103.6	106.0	97.4	103.4	105.7	97.4
1984	103.6	104.1	105.6	100.0	104.3	105.9	100.0
1985	106.1	107.4	108.6	104.2	106.4	107.3	104.2
1986	109.3	110.7	112.3	106.2	110.3	111.8	106.3
1987 [1]	108.5	114.6	116.6	109.4	113.6	115.1	109.4
Average annual percent change:							
1967-87	3.2	1.4	1.5	1.2	1.4	1.6	1.0
1982-87	2.0	2.4	2.4	2.6	2.1	2.0	2.6

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the U.S. Department of Agriculture.

Table 24. Poultry dressing and processing plants (SIC 2016, 2017): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	73.4	71.9	88.4	74.4	73.1	88.0
1964	75.1	73.8	89.3	77.2	75.8	89.9
1965	75.2	73.9	86.5	78.7	77.6	88.7
1966	74.1	72.6	89.6	78.1	77.0	89.2
1967	80.6	78.7	101.5	83.6	81.9	100.8
1968	77.9	76.2	95.6	79.8	78.7	90.6
1969	76.8	74.9	97.0	79.9	78.6	92.8
1970	78.3	76.5	98.4	82.3	80.9	95.6
1971	85.5	84.2	97.7	87.1	86.0	96.9
1972	88.1	86.4	106.5	92.7	91.2	106.9
1973	77.5	76.0	91.9	80.1	78.9	93.0
1974	87.3	87.2	88.0	90.1	90.3	89.3
1975	87.9	88.6	81.6	88.5	89.3	82.5
1976	98.6	100.2	86.7	99.7	101.3	87.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	99.8	115.4	101.9	100.6	115.4
1979	106.1	105.6	111.5	107.7	107.2	112.0
1980	105.7	105.5	108.2	106.2	105.9	108.9
1981	116.4	114.5	135.4	115.3	113.4	135.7
1982	125.6	124.4	136.8	127.3	126.1	137.3
1983	131.7	130.7	140.4	134.1	133.4	140.3
1984	130.3	129.8	135.1	133.1	132.7	135.6
1985	133.2	131.8	146.4	136.3	135.2	146.7
1986 [2]	127.3	127.8	123.5	128.7	129.3	124.0
Average annual percent change:						
1963-86	2.9	3.0	2.0	2.8	2.8	2.1
1982-86	.4	.6	-1.6	.4	.6	-1.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 25. Poultry dressing and processing plants (SIC 2016, 2017): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	53.3	72.6	74.1	60.3	71.6	72.9	60.6
1964	56.2	74.8	76.2	62.9	72.8	74.1	62.5
1965	58.0	77.1	78.5	65.5	73.7	74.7	65.4
1966	60.0	81.0	82.7	67.0	76.8	77.9	67.3
1967	72.7	90.2	92.4	71.6	87.0	88.8	72.1
1968	71.4	91.7	93.7	74.7	89.5	90.7	78.8
1969	75.0	97.7	100.1	77.3	93.9	95.4	80.8
1970	78.1	99.7	102.1	79.4	94.9	96.5	81.7
1971	80.1	93.7	95.1	82.0	92.0	93.1	82.7
1972	87.3	99.1	101.1	82.0	94.2	95.7	81.7
1973	78.7	101.5	103.5	85.6	98.2	99.8	84.6
1974	88.4	101.3	101.4	100.5	98.1	97.9	99.0
1975	83.3	94.8	94.0	102.1	94.1	93.3	101.0
1976	98.8	100.2	98.6	113.9	99.1	97.5	112.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.5	105.1	106.7	92.3	104.5	105.9	92.3
1979	119.5	112.6	113.2	107.2	111.0	111.5	106.7
1980	127.7	120.8	121.1	118.0	120.2	120.6	117.3
1981	140.9	121.1	123.1	104.1	122.2	124.3	103.8
1982	153.1	121.9	123.1	111.9	120.3	121.4	111.5
1983	159.2	140.9	121.8	113.4	118.7	119.3	113.5
1984	152.5	117.0	117.5	112.9	114.6	114.9	112.5
1985	162.2	121.8	123.1	110.8	119.0	120.0	110.6
1986 [1]	170.5	133.9	133.4	138.1	132.5	131.9	137.5
Average annual percent change:							
1963-86	5.2	2.3	2.2	3.1	2.4	2.3	3.1
1982-86	2.4	2.0	1.7	4.1	2.0	1.7	4.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 26. Fluid milk (SIC 2026): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1963	57.4	56.8	98.6	171.8	173.7
1964	58.6	57.9	100.0	170.7	172.6
1965	59.3	58.7	99.8	168.2	170.0
1966	61.0	60.3	98.5	161.5	163.4
1967	62.9	62.2	98.1	156.0	157.7
1968	66.5	64.4	97.7	147.0	151.7
1969	69.6	67.3	98.0	140.9	145.6
1970	73.7	71.3	99.2	134.6	139.1
1971	79.4	77.3	101.1	127.3	130.8
1972	85.1	83.7	102.9	120.9	122.9
1973	88.4	87.2	100.4	113.6	115.1
1974	90.9	89.7	98.3	108.1	109.6
1975	95.5	94.3	99.4	104.1	105.4
1976	99.5	98.1	100.6	101.1	102.5
1977	100.0	100.0	100.0	100.0	100.0
1978	107.9	106.4	101.6	94.2	95.5
1979	115.6	113.5	101.5	87.8	89.4
1980	123.9	122.0	101.6	82.0	83.3
1981	128.0	125.1	99.6	77.8	79.6
1982	135.3	132.2	101.1	74.7	76.5
1983	142.4	139.5	102.4	71.9	73.4
1984	147.7	144.8	104.1	70.5	71.9
1985	152.3	150.4	106.3	69.8	70.7
1986	157.0	155.2	106.0	67.5	68.3
1987 [1]	164.2	162.7	108.2	65.9	66.5
Average annual percent change:					
1958-87	4.6	4.5	.4	-4.0	-4.0
1982-87	3.8	4.1	1.3	-2.3	-2.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Economic Research Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 27. Preserved fruits and vegetables (SIC 203): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	65.8	64.5	75.3	66.0	64.6	75.1
1964	67.9	66.7	75.8	68.8	67.8	75.9
1965	70.3	69.0	79.0	71.5	70.4	78.8
1966	70.0	68.7	79.0	70.9	69.7	78.6
1967	73.8	71.6	89.6	75.5	73.6	89.1
1968	75.6	73.4	91.0	75.1	73.4	88.3
1969	76.9	74.9	91.2	77.1	75.5	87.6
1970	79.7	78.6	87.3	79.6	78.7	85.0
1971	83.1	82.3	88.2	83.9	83.2	87.3
1972	84.6	83.8	89.9	85.4	84.6	90.4
1973	93.1	93.0	93.7	93.8	93.6	94.8
1974	91.7	90.4	99.9	92.6	91.2	101.2
1975	93.7	92.5	101.4	93.7	92.3	102.4
1976	100.1	99.4	105.2	98.4	97.2	106.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	103.6	107.0	103.4	102.7	107.2
1979	98.9	99.2	97.5	99.0	99.2	98.0
1980	100.8	102.0	94.7	102.3	103.8	95.4
1981	99.2	99.8	95.5	100.3	101.1	95.9
1982	107.9	110.1	96.6	107.1	109.2	97.0
1983	110.4	113.0	97.9	110.4	113.1	97.9
1984	112.4	114.1	103.4	112.5	114.3	103.9
1985	111.7	114.7	97.7	109.7	112.2	98.1
1986 [2]	118.3	122.0	100.8	115.0	117.9	101.3
Average annual percent change:						
1947-86	2.7	2.9	1.8	2.7	2.9	1.7
1982-86	2.0	2.2	.8	1.4	1.5	.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Canners Association; U.S. Department of Agriculture; the Bureau of Labor Statistics; the Bureau of Competitive Assessment and Business Policy; the National Oceanic and Atmospheric Administration; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 28. Preserved fruits and vegetables (SIC 203): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	58.6	89.0	90.9	77.8	88.8	90.7	78.0
1964	61.4	90.4	92.0	81.0	89.2	90.6	80.9
1965	65.1	92.6	94.3	82.4	91.0	92.5	82.6
1966	66.6	95.2	97.0	84.3	94.0	95.6	84.7
1967	71.2	96.5	99.5	79.5	94.3	96.8	79.9
1968	72.9	96.4	99.3	80.1	97.1	99.3	84.5
1969	75.7	98.4	101.1	83.0	98.2	100.3	86.4
1970	75.9	95.2	96.6	86.9	95.4	96.4	89.3
1971	80.5	96.9	97.8	91.3	95.9	96.7	92.2
1972	84.9	100.3	101.3	94.4	99.4	100.4	93.9
1973	93.5	100.4	100.5	99.8	99.7	99.9	98.6
1974	90.5	98.7	100.1	90.6	97.7	99.2	89.4
1975	88.5	94.5	95.7	87.3	94.5	95.9	86.4
1976	92.8	92.7	93.4	88.2	94.3	95.5	87.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.6	102.4	102.9	99.6	103.1	103.8	99.4
1979	102.9	104.0	103.7	105.5	103.9	103.7	105.0
1980	102.0	101.2	100.0	107.7	99.7	98.3	106.9
1981	97.2	98.0	97.4	101.8	96.9	96.1	101.4
1982	100.2	92.9	91.0	103.7	93.6	91.8	103.3
1983	100.9	91.4	89.3	103.1	91.4	89.2	103.1
1984	105.0	93.4	92.0	101.5	93.3	91.9	101.1
1985	103.3	92.5	90.1	105.7	94.2	92.1	105.3
1986 [1]	108.1	91.4	88.6	107.2	94.0	91.7	106.7
Average annual percent change:							
1947-86	3.3	.5	.4	1.4	.5	.4	1.6
1982-86	1.8	-.2	-.4	.9	.4	.3	.9

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Canners Association; U.S. Department of Agriculture; the Bureau of Labor Statistics; the Bureau of Competitive Assessment and Business Policy; the National Oceanic and Atmospheric Administration; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 29. Canned fruits and vegetables (SIC 2033): Indexes of output per employee hour and output per employee, 1963–86
(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	66.4	65.9	70.3	66.2	65.8	70.2
1964	68.0	68.0	67.9	68.7	68.9	68.1
1965	68.6	68.6	67.7	69.4	69.7	67.6
1966	70.0	70.0	69.4	71.1	71.4	69.0
1967	72.0	70.8	81.9	75.2	74.5	81.4
1968	71.8	70.4	83.0	71.9	71.1	78.7
1969	74.9	73.4	87.3	75.7	74.7	83.8
1970	76.4	75.9	80.0	76.1	75.9	77.8
1971	78.7	78.3	81.5	80.0	79.9	80.8
1972	84.5	84.7	83.3	84.8	85.1	83.8
1973	94.4	94.2	95.2	95.2	95.2	96.4
1974	93.3	91.1	113.7	94.7	92.4	115.2
1975	92.2	90.4	107.7	93.6	91.8	108.9
1976	102.3	101.2	109.4	99.0	97.5	110.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	103.7	106.5	101.8	101.2	106.1
1979	101.9	103.0	94.1	103.9	105.5	94.3
1980	101.4	104.0	86.1	102.9	105.6	86.4
1981	100.7	101.5	95.3	100.6	101.5	95.3
1982	108.6	110.8	95.2	109.1	111.5	95.1
1983	112.2	115.5	92.9	112.7	116.1	92.6
1984	115.7	119.9	92.2	116.3	120.5	92.5
1985	122.1	126.8	96.3	121.5	126.0	96.5
1986 [2]	131.5	136.5	103.2	126.5	130.5	103.2
Average annual percent change:						
1958-86	3.1	3.3	1.9	2.9	3.1	1.8
1982-86	4.8	5.2	2.0	3.8	4.0	2.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 30. Canned fruits and vegetables (SIC 2033): Indexes of output, employee hours, and employees, 1963-86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	82.1	123.6	124.6	116.8	124.0	124.8	117.0
1964	85.1	125.1	125.1	125.4	123.9	123.6	125.0
1965	84.5	123.2	123.1	124.8	121.8	121.3	125.0
1966	86.9	124.2	124.1	125.3	122.3	121.7	126.0
1967	91.2	126.7	128.9	111.4	121.2	122.4	112.0
1968	90.5	126.1	128.5	109.1	125.9	127.3	115.0
1969	93.0	124.2	126.7	106.5	122.9	124.5	111.0
1970	88.7	116.1	116.8	110.9	116.6	116.9	114.0
1971	91.3	116.0	116.6	112.0	114.1	114.2	113.0
1972	92.2	109.1	108.9	110.7	108.7	108.4	110.0
1973	102.1	108.2	108.4	107.2	107.3	107.3	105.9
1974	97.9	104.9	107.5	86.1	103.4	105.9	85.0
1975	94.7	102.7	104.8	87.9	101.2	103.2	87.0
1976	98.5	96.3	97.3	90.0	99.5	101.0	89.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.9	98.0	98.3	95.7	100.1	100.7	96.0
1979	103.7	101.8	100.7	110.2	99.8	98.3	110.0
1980	99.4	98.0	95.6	115.5	96.6	94.1	115.0
1981	95.3	94.6	93.9	100.0	94.7	93.9	100.0
1982	93.2	85.8	84.1	97.9	85.4	83.6	98.0
1983	88.9	79.2	77.0	95.7	78.9	76.6	96.0
1984	97.1	83.9	81.0	105.3	83.5	80.6	105.0
1985	99.4	81.4	78.4	103.2	81.8	78.9	103.0
1986 [1]	103.2	78.5	75.6	100.0	81.6	79.1	100.0
Average annual percent change:							
1958-86	1.1	-1.9	-2.1	-.8	-1.8	-1.9	-.7
1982-86	3.2	-1.5	-1.9	1.2	-.5	-.8	1.1

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 31. Grain mill products (SIC 204): Indexes of output per employee hour and output per employee, 1963–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	61.0	60.8	61.5	63.0	63.8	61.3
1964	64.3	64.3	64.2	66.7	67.6	64.4
1965	66.0	66.0	65.8	68.4	69.7	65.7
1966	68.8	69.2	67.7	71.0	72.6	67.4
1967	73.0	72.8	73.6	74.4	75.0	73.3
1968	77.0	75.9	80.0	77.4	78.1	75.9
1969	78.3	77.6	80.4	79.3	80.2	77.2
1970	79.7	78.9	81.9	79.8	79.9	79.7
1971	83.3	82.5	85.4	83.1	82.5	84.6
1972	85.5	84.5	87.8	87.6	87.4	88.3
1973	81.7	80.0	86.3	86.1	85.6	87.2
1974	86.4	86.0	87.2	87.3	86.9	88.4
1975	87.1	86.2	89.5	88.6	87.9	90.3
1976	91.1	91.1	91.1	92.4	92.6	92.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.2	100.8	98.7	99.9	100.4	98.8
1979	101.0	100.3	103.1	101.9	101.2	103.4
1980	105.3	105.4	105.1	105.6	105.4	105.9
1981	110.9	111.2	110.1	112.8	113.7	110.5
1982	121.0	123.2	115.6	119.2	120.6	115.9
1983	125.5	127.4	120.7	124.0	125.5	120.5
1984	132.8	136.7	123.6	130.7	133.6	124.1
1985	144.9	150.4	132.0	142.5	147.4	132.5
1986 [2]	146.6	151.6	134.8	146.4	151.8	135.1
Average annual percent change:						
1963-86	3.6	3.7	3.2	3.4	3.4	3.3
1982-86	5.4	6.0	4.0	5.7	6.4	4.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 32. Grain mill products (SIC 204): Indexes of output, employee hours, and employees, 1963–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	63.1	103.4	103.8	102.6	100.2	98.9	103.0
1964	65.2	101.4	101.4	101.5	97.8	96.5	101.2
1965	65.5	99.2	99.2	99.6	95.7	94.0	99.7
1966	68.2	99.1	98.6	100.7	96.0	93.9	101.2
1967	73.7	100.9	101.2	100.2	99.0	98.3	100.6
1968	75.4	97.9	99.3	94.3	97.4	96.6	99.4
1969	78.8	100.6	101.6	98.0	99.4	98.3	102.1
1970	79.9	100.2	101.3	97.5	100.1	100.0	100.3
1971	79.4	95.3	96.2	93.0	95.5	96.3	93.8
1972	86.4	101.1	102.2	98.4	98.1	98.8	97.9
1973	84.1	102.9	105.1	97.5	97.7	98.3	96.5
1974	88.1	102.0	102.5	101.0	100.9	101.4	99.7
1975	89.5	102.7	103.8	100.0	101.0	101.8	99.1
1976	93.7	102.9	102.9	102.9	101.4	101.2	101.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	102.5	101.9	104.1	102.8	102.3	104.2
1979	103.1	102.1	102.8	100.0	101.2	101.9	99.7
1980	106.5	101.1	101.0	101.3	100.9	101.0	100.6
1981	109.2	98.5	98.2	99.2	96.8	96.0	98.8
1982	113.5	93.8	92.1	98.2	95.2	94.1	97.9
1983	116.2	92.6	91.2	96.3	93.7	92.6	96.4
1984	118.5	89.2	86.7	95.9	90.7	88.7	95.5
1985	125.3	86.5	83.3	94.9	87.9	85.0	94.6
1986 [1]	125.5	85.6	82.8	93.1	85.7	82.7	92.9
Average annual percent change:							
1963-86	3.1	-.5	-.6	-.1	-.3	-.3	-.2
1982-86	2.8	-2.5	-3.0	-1.2	-2.7	-3.4	-1.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 33. Flour (including flour mixes) and other grains (SIC 2041, 2045): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	65.0	62.9	71.8	68.2	66.9	71.6
1964	69.1	68.6	70.7	71.8	72.2	70.8
1965	71.2	69.9	75.5	73.1	72.3	75.1
1966	74.9	73.3	79.9	76.4	75.4	79.3
1967	77.9	76.1	83.2	79.1	77.8	82.7
1968	81.2	78.1	91.5	82.1	80.3	86.8
1969	80.3	77.7	88.8	81.1	79.7	85.0
1970	84.2	82.4	89.9	84.2	83.3	87.0
1971	86.2	83.3	95.7	86.6	83.7	94.4
1972	86.3	83.4	95.8	89.1	86.6	96.0
1973	86.6	82.6	100.5	90.2	86.2	101.6
1974	93.5	90.1	104.7	93.5	89.4	105.8
1975	91.8	90.3	96.9	91.8	89.7	97.7
1976	92.8	93.8	90.1	93.3	94.4	90.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.0	96.6	102.4	98.8	97.4	102.2
1979	95.1	92.7	102.3	98.7	97.1	102.7
1980	98.1	95.9	105.1	99.4	97.1	105.3
1981	99.1	96.8	106.3	101.4	99.5	106.6
1982	112.3	109.8	119.9	109.0	105.0	120.3
1983	117.7	116.0	122.7	117.3	115.3	122.4
1984	122.9	120.9	129.1	120.7	117.4	129.4
1985	126.0	125.5	127.5	123.2	121.4	128.0
1986 [2]	132.1	131.7	133.4	129.4	127.6	134.0
Average annual percent change:						
1963-86	2.7	2.7	2.4	2.5	2.4	2.5
1982-86	4.0	4.5	2.5	4.0	4.5	2.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 34. Flour (including flour mixes) and other grains (SIC 2041, 2045): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	84.1	129.4	133.8	117.1	123.2	125.7	117.4
1964	88.2	127.6	128.6	124.8	122.9	122.2	124.6
1965	84.9	119.2	121.5	112.4	116.2	117.5	113.0
1966	87.3	116.5	119.1	109.3	114.2	115.8	110.1
1967	92.3	118.5	121.3	110.9	116.7	118.7	111.6
1968	93.0	114.5	119.1	101.6	113.3	115.8	107.2
1969	93.6	116.5	120.4	105.4	115.4	117.5	110.1
1970	92.0	109.3	111.7	102.3	109.2	110.5	105.8
1971	87.6	101.6	105.2	91.5	101.2	104.7	92.8
1972	89.1	103.2	106.8	93.0	100.0	102.9	92.8
1973	94.3	108.9	114.2	93.8	104.6	109.4	92.8
1974	98.2	105.0	109.0	93.8	105.0	109.9	92.8
1975	99.1	107.9	109.8	102.3	107.9	110.5	101.4
1976	99.9	107.7	106.5	110.9	107.1	105.8	110.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.2	101.2	102.7	96.9	100.4	101.8	97.1
1979	98.3	103.4	106.0	96.1	99.6	101.2	95.7
1980	97.7	99.6	101.9	93.0	98.3	100.6	92.8
1981	98.9	99.8	102.2	93.0	97.5	99.4	92.8
1982	99.4	88.5	90.5	82.9	91.2	94.7	82.6
1983	106.5	90.5	91.8	86.8	90.8	92.4	87.0
1984	105.1	85.5	86.9	81.4	87.1	89.5	81.2
1985	105.7	83.9	84.2	82.9	85.8	87.1	82.6
1986 [1]	112.7	85.3	85.6	84.5	87.1	88.3	84.1
Average annual percent change:							
1963-86	1.0	-1.6	-1.7	-1.4	-1.4	-1.4	-1.5
1982-86	2.5	-1.5	-2.0	-.1	-1.5	-2.0	-.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 35. Flour and other grain mill products (SIC 2041): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	59.4	57.9	65.2	63.0	62.2	65.1
1964	62.6	61.4	66.8	65.7	65.2	66.9
1965	64.5	63.7	67.4	66.5	66.3	67.2
1966	68.4	67.2	73.2	70.7	70.1	72.6
1967	70.6	70.2	71.9	72.1	72.4	71.5
1968	74.7	73.0	80.7	75.7	75.4	76.5
1969	73.0	71.8	77.0	73.7	73.7	73.8
1970	76.6	76.0	78.8	77.6	78.0	76.6
1971	77.7	76.3	82.1	78.6	77.7	81.2
1972	80.8	78.9	87.7	83.5	81.9	88.2
1973	80.4	78.0	88.9	82.6	80.1	90.0
1974	84.4	82.6	90.9	84.5	82.1	92.1
1975	85.8	85.8	85.8	85.2	84.7	86.5
1976	85.1	86.7	80.7	84.5	85.7	81.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.9	99.6	105.3	102.1	100.6	106.2
1979	97.3	95.9	102.1	100.1	99.1	103.0
1980	94.8	93.7	98.8	98.1	97.5	99.8
1981	98.7	95.1	102.2	99.6	98.2	103.3
1982	104.1	100.9	115.2	102.6	98.4	115.5
1983	110.4	107.7	119.5	112.5	109.8	119.9
1984	114.9	112.8	122.2	114.8	112.2	122.2
1985	122.9	121.9	126.2	122.0	120.1	127.9
1986	130.6	129.4	134.5	130.2	128.5	134.5
1987 [2]	129.0	126.6	130.8	130.2	129.8	131.2
Average annual percent change:						
1947-87	3.6	3.6	3.3	3.5	3.5	3.2
1982-87	4.8	5.4	3.0	4.9	5.7	3.0

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 36. Flour and other grain mill products (SIC 2041): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	90.4	152.1	156.1	138.6	143.6	145.3	138.9
1964	92.1	147.1	149.9	137.9	140.2	141.2	137.7
1965	88.5	137.3	139.0	131.4	133.0	133.4	131.7
1966	91.0	133.0	135.5	124.4	128.8	129.8	125.3
1967	94.8	134.2	135.0	131.8	131.4	130.9	132.6
1968	96.1	128.7	131.7	119.1	126.9	127.4	125.6
1969	94.5	129.5	131.7	122.8	128.3	128.3	128.0
1970	94.5	123.4	124.4	119.9	121.8	121.2	123.3
1971	90.7	116.8	118.8	110.5	115.4	116.8	111.7
1972	86.2	106.7	109.3	98.3	103.2	105.2	97.7
1973	90.0	111.9	115.4	101.2	108.9	112.3	100.0
1974	94.3	111.7	114.2	103.7	111.6	114.9	102.4
1975	96.6	112.6	112.6	112.6	113.4	114.1	111.7
1976	94.8	111.4	109.3	117.5	112.2	110.6	116.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.8	97.9	99.2	93.8	96.8	98.2	93.0
1979	98.2	100.9	102.4	96.2	98.1	99.1	95.3
1980	97.5	102.8	104.1	98.7	99.4	100.0	97.7
1981	100.9	104.3	106.1	98.7	101.3	102.7	97.7
1982	99.3	95.4	98.4	86.2	96.8	100.9	86.0
1983	106.0	96.0	98.4	88.7	94.2	96.5	88.4
1984	102.3	89.0	90.7	83.7	89.1	91.2	83.7
1985	104.1	84.7	85.4	82.5	85.3	86.7	81.4
1986	112.6	86.2	87.0	83.7	86.5	87.6	83.7
1987 [1]	116.0	89.9	90.2	88.7	89.1	89.4	88.4
Average annual percent change:							
1947-87	.7	-2.8	-2.8	-2.5	-2.7	-2.7	-2.4
1982-87	2.8	-1.9	-2.4	-.1	-2.0	-2.7	-.2

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 37. Cereal breakfast foods (SIC 2043): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	79.3	81.3	68.9	76.4	77.9	69.1
1964	81.0	82.3	73.9	78.9	79.7	75.8
1965	83.0	84.4	75.2	80.0	80.9	75.4
1966	84.1	85.4	76.9	82.5	83.5	77.1
1967	86.6	88.6	76.5	83.5	84.8	76.9
1968	90.1	92.3	79.4	88.1	90.8	75.7
1969	88.8	91.0	77.9	87.7	90.3	76.2
1970	92.0	93.8	82.8	89.5	91.4	81.1
1971	92.4	94.5	81.1	90.8	92.8	81.8
1972	97.6	99.6	87.5	95.0	96.4	88.2
1973	96.6	96.9	95.0	99.0	99.2	97.9
1974	92.1	93.1	87.3	92.3	93.0	88.5
1975	94.8	95.3	92.0	97.3	98.0	93.2
1976	100.0	100.9	95.6	97.9	98.0	97.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.5	101.7	100.0	98.8	98.6	100.0
1979	107.3	105.1	122.2	105.0	102.2	123.4
1980	105.9	104.0	118.9	104.6	102.2	120.0
1981	109.3	107.6	120.7	108.4	106.2	121.9
1982	115.0	118.8	97.0	110.5	113.3	97.6
1983	118.8	123.2	97.9	114.9	118.5	99.0
1984	129.3	133.8	106.8	126.1	130.2	108.0
1985	133.8	138.2	112.3	131.8	135.9	113.5
1986 [2]	134.0	138.9	110.9	134.0	139.0	112.4
Average annual percent change:						
1963-86	2.1	2.1	2.2	2.2	2.1	2.3
1982-86	4.3	4.4	4.1	5.4	5.6	4.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 38. Cereal breakfast foods (SIC 2043): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	53.1	67.0	65.3	77.1	69.5	68.2	76.9
1964	55.4	68.4	67.3	75.0	70.2	69.5	73.1
1965	58.0	69.9	68.7	77.1	72.5	71.7	76.9
1966	59.3	70.5	69.4	77.1	71.9	71.0	76.9
1967	62.1	71.7	70.1	81.2	74.4	73.2	80.8
1968	61.2	67.9	66.3	77.1	69.5	67.4	80.8
1969	61.6	69.4	67.7	79.1	70.2	68.2	80.8
1970	65.5	71.2	69.8	79.1	73.2	71.7	80.8
1971	69.3	75.0	73.3	85.4	76.3	74.7	84.7
1972	74.7	76.5	75.0	85.4	78.6	77.5	84.7
1973	79.1	81.9	81.6	83.3	79.9	79.7	80.8
1974	78.2	84.9	84.0	89.6	84.7	84.1	88.4
1975	82.4	86.9	86.5	89.6	84.7	84.1	88.4
1976	89.6	89.6	88.8	93.7	91.5	91.4	92.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.0	98.5	98.3	100.0	101.2	101.4	100.0
1979	104.4	97.3	99.3	85.4	99.4	102.2	84.6
1980	101.5	95.8	97.6	85.4	97.0	99.3	84.6
1981	103.1	94.3	95.8	85.4	95.1	97.1	84.6
1982	105.1	91.4	88.5	108.3	95.1	92.8	107.7
1983	114.2	96.1	92.7	116.7	99.4	96.4	115.4
1984	124.6	96.4	93.1	116.7	98.8	95.7	115.4
1985	131.0	97.9	94.8	116.7	99.4	96.4	115.4
1986 [1]	134.0	100.0	96.5	120.8	100.0	96.4	119.2
Average annual percent change:							
1963-86	4.2	2.0	2.0	1.9	2.0	2.0	1.9
1982-86	6.4	2.0	2.0	2.2	1.0	.8	2.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 39. Rice milling (SIC 2044): Indexes of output per employee hour and output per employee, 1963–87
(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	61.2	66.2	43.1	64.2	71.9	41.8
1964	69.9	74.7	51.2	74.2	81.1	51.9
1965	73.4	78.1	55.0	79.7	87.1	55.8
1966	79.1	85.6	55.5	84.4	93.7	56.2
1967	81.3	87.2	59.0	85.4	93.4	59.8
1968	86.0	93.9	65.2	89.4	97.7	62.6
1969	85.1	90.5	63.7	87.4	95.6	61.2
1970	82.0	92.1	50.7	85.1	99.3	49.7
1971	83.1	90.7	56.7	85.9	97.1	54.4
1972	93.8	102.4	63.5	96.6	107.3	64.4
1973	81.5	89.3	54.5	85.0	95.3	55.3
1974	93.4	98.6	72.4	89.5	93.8	73.0
1975	90.4	94.3	73.3	90.6	95.0	73.9
1976	88.7	92.0	73.5	85.1	87.7	74.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	92.7	102.1	61.5	92.7	103.6	60.6
1979	96.3	106.7	62.3	94.2	105.4	61.7
1980	111.8	122.3	75.6	112.3	124.8	74.9
1981	117.9	120.7	104.3	124.5	129.0	105.8
1982	104.5	110.1	81.3	102.1	108.4	79.5
1983	103.3	112.4	71.1	101.1	110.9	70.0
1984	93.2	105.5	56.5	92.3	105.9	56.0
1985	103.2	119.3	59.0	100.1	116.8	58.4
1986	112.6	120.0	83.6	112.4	120.1	85.2
1987 [2]	118.4	125.9	88.9	118.1	127.2	86.9
Average annual percent change:						
1963-87	2.0	2.0	1.9	1.7	1.6	1.9
1982-87	2.9	2.9	2.8	3.3	3.3	3.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 40. Rice milling (SIC 2044): Indexes of output, employee hours, and employees, 1963–87
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	57.5	93.9	86.9	133.5	89.6	80.0	137.5
1964	64.9	92.9	86.9	126.7	87.5	80.0	125.0
1965	69.7	94.9	89.3	126.7	87.5	80.0	125.0
1966	70.3	88.9	82.1	126.7	83.3	75.0	125.0
1967	74.7	91.9	85.7	126.7	87.5	80.0	125.0
1968	78.2	88.9	83.3	120.0	87.5	80.0	125.0
1969	76.5	89.9	84.5	120.0	87.5	80.0	125.0
1970	74.5	90.9	80.9	146.8	87.5	75.0	150.0
1971	68.0	81.8	75.0	120.0	79.2	70.0	125.0
1972	80.5	85.8	78.6	126.7	83.3	75.0	125.0
1973	69.1	84.8	77.4	126.7	81.3	72.5	125.0
1974	82.1	87.9	83.3	113.4	91.7	87.5	112.5
1975	83.1	91.9	88.1	113.4	91.7	87.5	112.5
1976	83.3	93.9	90.5	113.4	97.9	95.0	112.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.4	106.1	98.4	160.0	106.2	95.0	162.5
1979	108.0	112.1	101.2	173.3	114.6	102.5	175.0
1980	131.0	117.2	107.1	173.3	116.7	105.0	175.0
1981	132.2	112.1	109.5	126.7	106.2	102.5	125.0
1982	119.2	114.1	108.3	146.7	116.7	110.0	150.0
1983	113.7	110.1	101.2	160.0	112.5	102.5	162.5
1984	98.0	105.1	92.9	173.3	106.2	92.5	175.0
1985	102.2	99.0	85.7	173.3	102.1	87.5	175.0
1986	117.1	104.0	97.6	140.0	104.2	97.5	137.5
1987 [1]	130.4	110.1	103.6	146.7	110.4	102.5	150.0
Average annual percent change:							
1963-87	3.0	1.0	1.0	1.1	1.4	1.4	1.1
1982-87	1.7	-1.2	-1.2	-1.1	-1.6	-1.6	-1.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census; Agricultural Marketing Service, U.S. Department of Agriculture; the Rice Millers' Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 41. Wet corn milling (SIC 2046): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	39.2	37.2	45.6	41.0	39.5	45.2
1964	41.9	40.2	47.2	44.0	42.8	47.5
1965	41.5	40.2	45.2	44.2	43.9	45.0
1966	42.2	41.6	43.7	43.7	43.9	43.2
1967	45.1	45.8	43.0	45.8	47.2	42.8
1968	48.6	48.4	48.8	48.1	49.1	46.0
1969	51.4	51.1	52.1	52.9	54.4	49.5
1970	47.8	48.3	46.7	49.4	51.3	45.2
1971	48.1	49.6	44.6	47.7	49.3	44.1
1972	62.6	64.2	58.8	63.0	64.9	58.6
1973	56.9	57.6	54.8	58.1	59.3	55.3
1974	71.1	72.8	66.8	72.4	74.7	67.2
1975	74.1	72.4	78.9	76.2	75.2	78.7
1976	83.2	81.8	87.5	85.1	83.8	88.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	102.7	107.7	102.2	100.2	107.4
1979	105.7	109.3	97.0	104.6	107.8	97.4
1980	121.0	122.8	116.5	118.6	119.6	116.5
1981	137.5	138.4	135.1	136.8	137.5	134.8
1982	138.8	139.6	136.8	140.7	142.8	135.9
1983	156.9	155.2	161.2	163.4	165.2	159.1
1984	192.1	193.1	189.8	199.4	203.3	190.7
1985	198.4	199.6	195.6	207.1	211.4	197.0
1986 [2]	218.1	226.0	199.8	230.7	244.6	201.6
Average annual percent change:						
1963-86	8.1	8.3	7.7	8.1	8.2	7.8
1982-86	12.1	12.9	10.0	13.0	14.1	10.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Corn Refiners Association, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 42. Wet corn milling (SIC 2046): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	49.6	126.4	133.2	108.7	121.1	125.6	109.7
1964	50.5	120.4	125.5	106.9	114.7	118.0	106.4
1965	52.3	126.1	130.0	115.6	118.4	119.2	116.1
1966	55.7	132.1	133.8	127.6	127.6	126.9	129.0
1967	59.3	131.6	129.4	137.9	129.4	125.6	138.7
1968	62.3	128.3	128.7	127.6	129.4	126.9	135.5
1969	65.5	127.4	128.1	125.8	123.8	120.5	132.2
1970	61.2	127.9	126.8	131.0	123.8	119.2	135.5
1971	56.9	118.2	114.7	127.6	119.3	115.3	129.0
1972	69.9	111.6	108.9	118.9	111.0	107.7	119.3
1973	62.4	109.7	108.3	113.8	107.4	105.2	112.9
1974	73.7	103.7	101.3	110.3	101.8	98.7	109.7
1975	76.2	102.8	105.2	96.6	100.0	101.3	96.8
1976	85.9	103.2	105.0	98.2	100.9	102.5	96.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	100.0	101.3	96.6	101.8	103.8	96.8
1979	103.7	98.1	94.9	106.9	99.1	96.2	106.5
1980	116.5	96.3	94.9	100.0	98.2	97.4	100.0
1981	130.5	94.9	94.3	96.6	95.4	94.9	96.8
1982	122.7	88.4	87.9	89.7	87.2	85.9	90.3
1983	133.5	85.1	86.0	82.8	81.7	80.8	83.9
1984	153.7	80.0	79.6	81.0	77.1	75.6	80.6
1985	165.3	83.3	82.8	84.5	79.8	78.2	83.9
1986 [1]	175.6	90.5	77.7	87.9	76.1	71.8	87.1
Average annual percent change:							
1963-86	5.7	-2.2	-2.4	-1.8	-2.2	-2.3	-1.9
1982-86	9.8	-2.1	-2.6	-.2	-2.9	-3.6	-.7

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Corn Refiners Association, the Bureau of the Census, and the Bureau of Labor Statistics.

Table 43. Prepared feeds for animals and fowls (SIC 2047, 2048): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	61.3	61.1	61.7	63.4	64.4	61.5
1964	64.1	63.5	65.3	66.9	67.8	65.4
1965	66.2	66.2	66.2	69.4	71.4	66.2
1966	69.5	69.7	68.8	72.7	75.2	68.4
1967	75.1	73.3	78.9	77.5	76.9	78.5
1968	79.1	76.3	85.2	80.1	79.6	80.8
1969	81.8	79.4	87.1	82.8	82.3	83.5
1970	83.7	79.9	92.4	83.7	80.6	89.9
1971	90.0	86.7	97.8	89.9	86.4	97.0
1972	87.1	83.5	95.3	90.7	88.1	96.0
1973	82.1	78.6	90.5	88.3	86.5	91.6
1974	84.9	83.3	88.2	86.8	85.5	89.3
1975	85.9	83.7	90.6	88.0	86.4	91.3
1976	90.1	88.3	93.9	92.9	92.0	94.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.4	101.3	98.4	100.8	102.1	98.4
1979	101.2	99.9	103.9	102.3	101.2	104.2
1980	105.0	105.5	104.0	105.4	105.8	104.7
1981	110.7	113.1	106.4	113.2	117.2	106.8
1982	124.9	128.4	118.4	124.0	127.1	118.7
1983	127.5	130.3	121.9	125.3	127.2	122.1
1984	132.5	138.9	121.4	129.5	134.2	121.8
1985	143.8	153.9	126.8	140.6	148.9	127.4
1986 [2]	140.0	150.0	123.5	139.5	149.8	123.8
Average annual percent change:						
1963-86	3.4	3.8	2.8	3.2	3.4	2.9
1982-86	3.5	4.9	1.2	3.6	5.0	1.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 44. Prepared feeds for animals and fowls (SIC 2047, 2048): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	60.9	99.3	99.7	98.7	96.1	94.5	99.1
1964	62.2	97.0	97.9	95.3	93.0	91.8	95.1
1965	62.6	94.5	94.6	94.5	90.2	87.7	94.5
1966	65.7	94.6	94.2	95.5	90.4	87.4	96.0
1967	72.7	96.8	99.2	92.1	93.8	94.5	92.6
1968	74.8	94.6	98.0	87.8	93.4	94.0	92.6
1969	80.7	98.6	101.7	92.6	97.5	98.1	96.6
1970	84.1	100.5	105.3	91.0	100.5	104.3	93.6
1971	85.9	95.4	99.1	87.8	95.6	99.4	88.6
1972	93.1	106.9	111.5	97.7	102.6	105.7	97.0
1973	87.9	107.0	111.8	97.1	99.6	101.6	96.0
1974	90.6	106.7	108.7	102.7	104.4	106.0	101.5
1975	91.3	106.3	109.1	100.8	103.7	105.7	100.0
1976	94.9	105.3	107.5	101.1	102.1	103.2	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.2	104.8	103.8	106.9	104.4	103.0	106.9
1979	104.2	103.0	104.3	100.3	101.9	103.0	100.0
1980	107.8	102.7	102.2	103.7	102.3	101.9	103.0
1981	109.5	98.9	96.8	102.9	96.7	93.4	102.5
1982	119.9	96.0	93.4	101.3	96.7	94.3	101.0
1983	117.8	92.4	90.4	96.6	94.0	92.6	96.5
1984	118.1	89.1	85.0	97.3	91.2	88.0	97.0
1985	120.5	83.8	78.3	95.0	85.7	80.9	94.6
1986 [1]	113.4	81.0	75.6	91.8	81.3	75.7	91.6
Average annual percent change:							
1963-86	3.1	-.3	-.7	.3	-.1	-.3	.2
1982-86	-.9	-4.3	-5.5	-2.1	-4.3	-5.6	-2.1

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 45. Bakery products (SIC 205): indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	72.3	70.6	75.3	72.6	73.4	71.3
1964	74.6	72.5	78.2	76.5	77.8	74.4
1965	77.5	75.1	81.3	77.5	77.6	76.9
1966	78.4	75.5	83.0	78.8	79.1	78.4
1967	82.8	79.0	89.6	82.2	80.6	84.4
1968	84.5	79.9	92.7	84.8	82.5	87.7
1969	84.7	80.5	92.2	84.5	81.8	88.5
1970	87.5	83.0	95.6	87.7	84.3	92.8
1971	89.5	86.8	94.0	90.2	83.2	93.1
1972	94.1	91.6	98.4	95.4	92.9	98.9
1973	93.6	90.9	98.2	95.1	92.2	99.4
1974	93.6	94.4	92.3	93.0	92.8	93.5
1975	93.4	94.5	92.0	93.1	93.2	92.8
1976	93.9	93.7	94.2	94.0	93.1	95.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.7	99.1	95.7	97.4	98.5	95.7
1979	95.0	94.4	95.9	95.3	94.7	96.2
1980	93.7	92.0	96.4	94.4	92.6	97.0
1981	96.2	94.5	98.7	97.4	96.4	99.1
1982	103.3	107.4	97.6	102.7	106.1	97.9
1983	106.9	109.7	103.0	106.1	108.3	103.0
1984	106.8	110.0	102.2	106.5	109.2	102.7
1985	108.5	114.1	101.1	108.4	113.7	101.4
1986 [2]	114.4	116.9	110.7	114.5	116.9	111.2
Average annual percent change:						
1947-86	2.1	2.4	1.5	2.0	2.2	1.6
1982-86	2.2	2.1	2.4	2.4	2.5	2.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 46. Bakery products (SIC 205): indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	91.6	126.7	129.8	121.7	126.2	124.8	128.4
1964	95.2	127.6	131.3	121.7	124.5	122.3	128.0
1965	96.9	125.1	129.0	119.2	125.1	124.8	126.0
1966	97.5	124.4	129.1	117.4	123.7	123.3	124.3
1967	97.8	118.1	123.8	109.2	119.0	121.4	115.9
1968	98.4	116.5	123.1	106.2	116.1	119.1	112.2
1969	100.8	119.0	125.2	109.3	119.3	123.2	113.9
1970	96.9	110.7	116.7	101.4	110.5	114.9	104.4
1971	96.3	107.6	110.9	102.4	106.8	109.2	103.4
1972	100.8	107.1	110.0	102.4	105.7	108.5	101.9
1973	99.9	106.7	109.9	101.7	105.1	108.4	100.5
1974	98.7	105.5	104.6	106.9	106.1	106.4	105.6
1975	99.3	106.3	105.1	107.9	106.7	106.6	107.0
1976	102.4	109.1	109.3	108.7	108.9	110.0	107.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.4	101.7	100.3	103.9	102.1	100.9	103.9
1979	99.4	104.6	105.3	103.7	104.3	105.0	103.3
1980	97.7	104.3	106.2	101.4	103.5	105.5	100.7
1981	97.8	101.7	103.5	99.1	100.4	101.5	98.7
1982	100.2	97.0	93.3	102.7	97.6	94.4	102.3
1983	98.8	92.4	90.1	95.9	93.1	91.2	95.9
1984	100.4	94.0	91.3	98.2	94.3	91.9	97.8
1985	102.0	94.0	89.4	100.9	94.1	89.7	100.6
1986 [1]	102.4	89.5	87.6	92.5	89.4	87.6	92.1
Average annual percent change:							
1947-86	.6	-1.2	-1.5	-.7	-1.1	-1.3	-.8
1982-86	.6	-1.4	-1.3	-1.6	-1.6	-1.6	-1.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 47. Sugar (SIC 2061, 2062, 2063): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	68.0	63.9	88.4	68.0	64.8	82.1
1964	71.5	67.2	92.5	71.9	68.7	86.3
1965	74.4	69.5	99.9	72.4	68.0	92.9
1966	77.1	73.0	95.6	74.5	72.2	88.5
1967	77.1	72.7	98.8	75.7	72.2	91.4
1968	80.5	75.2	106.9	79.4	75.2	99.0
1969	78.6	73.9	102.7	76.0	72.2	93.9
1970	85.9	80.1	116.1	83.0	78.4	105.0
1971	84.9	79.7	110.7	86.5	82.4	105.1
1972	90.4	86.5	109.5	90.9	87.0	108.6
1973	96.3	93.8	107.0	98.8	96.1	110.3
1974	93.2	89.2	112.8	98.2	94.1	117.2
1975	94.0	93.8	94.4	91.8	90.7	96.8
1976	95.8	95.2	98.5	97.3	96.6	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.3	98.7	96.6	95.8	95.7	96.2
1979	103.1	103.2	102.1	101.7	101.6	102.3
1980	100.1	99.5	102.4	98.2	97.0	103.3
1981	98.8	97.8	103.6	97.1	95.6	103.6
1982	90.4	90.6	89.3	88.2	87.9	89.3
1983	98.6	97.3	104.4	97.3	95.6	104.1
1984	99.7	99.0	103.8	99.0	97.8	103.6
1985	105.5	104.6	109.1	107.2	106.6	109.7
1986	110.1	109.6	112.3	114.3	114.7	113.0
1987 [2]	127.4	127.9	125.1	131.3	132.9	125.8
Average annual percent change:						
1947-87	3.0	3.3	1.8	3.0	3.3	1.9
1982-87	6.2	6.3	5.7	7.6	8.0	5.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 48. Sugar (SIC 2061, 2062, 2063): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	77.0	113.2	120.5	87.1	113.3	118.9	93.8
1964	83.1	116.2	123.7	89.8	115.6	120.9	96.3
1965	80.6	108.3	116.0	80.7	111.4	118.5	86.8
1966	81.2	105.3	111.2	84.9	109.0	112.5	91.8
1967	82.7	107.2	113.8	83.7	109.3	114.6	90.5
1968	86.5	107.5	115.0	80.9	109.0	115.1	87.4
1969	85.0	108.1	115.0	82.8	111.8	117.8	90.5
1970	90.2	105.0	112.6	77.7	108.7	115.1	85.9
1971	90.3	106.4	113.3	81.6	104.4	109.6	85.9
1972	94.9	105.0	109.7	86.7	104.4	109.1	87.4
1973	96.1	99.8	102.4	89.8	97.3	100.0	87.1
1974	94.5	101.4	106.0	83.8	96.2	100.4	80.6
1975	95.3	101.4	101.6	100.9	103.8	105.1	98.4
1976	103.2	107.7	108.4	104.8	106.1	106.8	103.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	91.6	93.2	92.8	94.8	95.6	95.7	95.2
1979	90.7	88.0	87.9	88.8	89.2	89.3	88.7
1980	88.3	88.2	88.7	86.2	89.9	91.0	85.5
1981	90.2	91.3	92.2	87.1	92.9	94.4	87.1
1982	77.8	86.1	85.9	87.1	88.2	88.5	87.1
1983	75.6	76.7	77.7	72.4	77.7	79.1	72.6
1984	76.9	77.1	77.7	74.1	77.7	78.6	74.2
1985	74.3	70.4	71.0	68.1	69.3	69.7	67.7
1986	76.5	69.5	69.8	68.1	66.9	66.7	67.7
1987 [1]	85.2	66.9	66.6	68.1	64.9	64.1	67.7
Average annual percent change:							
1947-87	1.5	-1.5	-1.7	-.3	-1.5	-1.7	-.4
1982-87	1.3	-4.6	-4.7	-4.2	-5.8	-6.2	-4.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service and Statistical Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 49. Raw and refined cane sugar (SIC 2061, 2062): Indexes of output per employee hour and output per employee, 1963–87
(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	69.8	65.4	86.7	70.4	68.2	77.2
1964	69.6	65.8	83.6	69.9	68.2	74.8
1965	76.9	71.7	97.7	76.3	73.0	87.0
1966	81.2	75.9	102.0	80.9	78.0	90.5
1967	81.2	77.1	96.5	83.2	80.2	93.1
1968	82.5	77.9	99.5	84.7	81.3	96.1
1969	79.6	77.3	86.9	79.0	77.6	82.9
1970	86.1	83.4	94.6	86.5	85.5	89.2
1971	82.8	80.1	91.0	86.4	85.0	90.2
1972	87.2	86.1	90.1	91.8	91.3	93.3
1973	93.4	90.9	101.4	98.0	95.7	104.5
1974	91.0	90.4	92.7	96.3	96.6	95.2
1975	90.8	91.6	88.9	91.5	91.8	90.5
1976	92.5	92.4	93.2	95.5	95.1	96.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.1	97.8	99.0	98.2	98.1	98.7
1979	101.5	99.0	110.9	102.4	99.7	111.0
1980	99.3	96.0	111.7	101.0	97.8	111.7
1981	98.8	94.8	114.6	100.6	96.5	114.6
1982	87.6	86.1	92.7	88.6	87.3	92.7
1983	100.0	95.9	116.3	98.2	93.1	116.8
1984	94.7	91.8	106.2	95.0	91.5	106.8
1985	108.7	104.8	123.6	109.7	105.6	123.0
1986	109.6	105.4	126.1	113.9	110.5	125.0
1987 [2]	118.5	115.0	132.1	122.6	119.8	131.0
Average annual percent change:						
1958-87	2.2	2.4	1.6	2.3	2.3	2.0
1982-87	5.6	5.5	6.4	6.5	6.6	6.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Agricultural Marketing Service and Statistical Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 50. Raw and refined cane sugar (SIC 2061, 2062): Indexes of output, employee hours, and employees, 1963–87
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	80.5	115.4	123.1	92.9	114.4	118.0	104.3
1964	79.4	114.1	120.7	95.0	113.6	116.4	106.1
1965	81.0	105.3	113.0	82.9	106.1	110.9	93.1
1966	84.9	104.6	111.9	83.2	104.9	108.9	93.8
1967	89.2	109.8	115.7	92.4	107.2	111.2	95.8
1968	88.0	106.7	113.0	88.4	103.9	108.2	91.6
1969	81.2	102.0	105.0	93.4	102.8	104.6	97.9
1970	85.5	99.3	102.5	90.4	98.9	100.0	95.8
1971	86.4	104.4	107.8	94.9	100.0	101.6	95.8
1972	91.3	104.7	106.0	101.3	99.5	100.0	97.9
1973	95.7	102.5	105.3	94.4	97.7	100.0	91.6
1974	95.2	104.6	105.3	102.7	98.9	98.6	100.0
1975	92.5	101.9	101.0	104.1	101.1	100.8	102.2
1976	96.6	104.4	104.6	103.7	101.1	101.6	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.5	96.3	96.6	95.5	96.2	96.3	95.7
1979	94.5	93.1	95.5	85.2	92.3	94.8	85.1
1980	92.7	93.4	96.8	83.0	91.8	94.8	83.0
1981	95.1	96.3	100.3	83.0	94.5	98.5	83.0
1982	76.9	87.8	89.3	83.0	86.8	88.1	83.0
1983	82.0	82.0	85.5	70.5	83.5	88.1	70.2
1984	77.2	81.5	84.1	72.7	81.3	84.4	72.3
1985	75.9	69.8	72.4	61.4	69.2	71.9	61.7
1986	74.5	68.0	70.7	59.1	65.4	67.4	59.6
1987 [1]	78.1	65.9	67.9	59.1	63.7	65.2	59.6
Average annual percent change:							
1958-87	.5	-1.7	-1.9	-1.1	-1.7	-1.8	-1.5
1982-87	.6	-6.0	-5.8	-6.6	-6.7	-6.8	-6.4

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Agricultural Marketing Service and Statistical Reporting Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 51. Beet sugar (SIC 2063): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	76.0	73.1	102.2	74.1	72.0	91.0
1964	86.6	83.3	117.2	87.0	84.8	104.8
1965	82.1	79.6	105.1	76.5	74.5	93.6
1966	82.0	81.7	83.0	74.8	74.9	73.6
1967	78.4	77.9	82.4	73.5	72.7	79.4
1968	85.2	83.9	94.9	81.3	79.8	91.5
1969	84.7	81.7	111.4	80.8	77.9	106.2
1970	92.9	89.8	120.7	87.2	84.2	113.8
1971	96.8	93.0	134.4	97.7	93.9	133.1
1972	105.5	102.3	134.1	100.9	96.9	138.7
1973	100.0	96.9	128.0	99.5	95.9	132.0
1974	94.2	91.9	113.5	90.8	87.8	116.5
1975	98.1	97.0	105.9	92.6	90.6	107.8
1976	101.7	100.8	107.1	101.8	100.7	108.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.3	99.0	93.5	91.8	91.6	93.1
1979	104.6	109.2	79.0	99.4	103.4	79.3
1980	102.1	104.5	87.6	93.8	94.8	87.2
1981	98.7	101.4	82.3	91.0	92.6	82.3
1982	94.8	97.4	79.1	87.5	89.0	79.1
1983	94.5	96.4	82.3	94.6	97.0	80.9
1984	108.8	110.6	97.1	106.1	107.9	95.4
1985	100.7	103.6	83.4	103.2	107.2	82.5
1986	111.8	116.5	85.9	115.2	121.5	85.5
1987 [2]	142.6	147.6	113.2	145.4	152.5	111.9
Average annual percent change:						
1958-87	1.9	2.2	.1	1.8	2.1	.5
1982-87	7.3	7.7	5.2	9.3	10.1	5.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 52. Beet sugar (SIC 2063): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	73.4	96.6	100.4	71.8	99.1	101.9	80.7
1964	92.1	106.4	110.6	78.6	105.9	108.6	87.9
1965	82.5	100.5	103.7	78.5	107.9	110.8	88.1
1966	77.4	94.4	94.7	93.3	103.5	103.3	105.2
1967	74.2	94.6	95.3	90.1	100.9	102.0	93.4
1968	85.5	100.4	101.9	90.1	105.2	107.1	93.4
1969	92.1	108.8	112.7	82.7	114.0	118.2	86.7
1970	98.7	106.2	109.9	81.8	113.2	117.2	86.7
1971	97.7	100.9	105.1	72.7	100.0	104.1	73.4
1972	101.8	96.5	99.5	75.9	100.9	105.1	73.4
1973	96.9	96.9	100.0	75.7	97.4	101.0	73.4
1974	93.2	98.9	101.4	82.1	102.6	106.1	80.0
1975	100.7	102.6	103.8	95.1	108.8	111.1	93.4
1976	116.0	114.1	115.1	108.3	114.0	115.2	106.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	86.9	88.4	87.8	92.9	94.7	94.9	93.3
1979	84.6	80.9	77.5	107.1	85.1	81.8	106.7
1980	81.4	79.7	77.9	92.9	86.8	85.9	93.3
1981	82.3	83.4	81.2	100.0	90.4	88.9	100.0
1982	79.1	83.4	81.2	100.0	90.4	88.9	100.0
1983	64.7	68.5	67.1	78.6	68.4	66.7	80.0
1984	76.3	70.1	69.0	78.6	71.9	70.7	80.0
1985	71.5	71.0	69.0	85.7	69.3	66.7	86.7
1986	79.8	71.4	68.5	92.9	69.3	65.7	93.3
1987 [1]	97.0	68.0	65.7	85.7	66.7	63.6	86.7
Average annual percent change:							
1958-87	.7	-1.2	-1.4	.7	-1.1	-1.3	.2
1982-87	4.6	-2.5	-2.8	-.5	-4.2	-5.0	-.5

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Agricultural Marketing Service, U.S. Department of Agriculture; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 53. Candy and other confectionery products (SIC 2065): Indexes of output per employee hour and output per employee, 1963–78
(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	58.8	57.3	66.0	60.0	58.7	66.4
1964	59.9	58.3	67.6	60.9	59.4	68.4
1965	62.4	60.3	73.9	63.8	61.7	74.4
1966	64.9	62.9	75.1	65.4	63.5	75.3
1967	66.8	64.3	80.3	67.4	64.9	80.4
1968	69.9	67.5	82.4	70.4	68.8	78.2
1969	65.2	63.2	75.1	66.2	64.9	72.1
1970	69.7	68.7	73.9	70.1	69.7	72.0
1971	76.6	76.5	76.7	79.5	80.5	76.1
1972	85.9	85.5	87.5	87.9	87.9	88.0
1973	91.7	95.4	78.2	93.4	97.6	79.1
1974	99.5	102.1	89.4	97.3	99.0	90.7
1975	90.8	94.6	77.3	87.0	89.4	78.3
1976	84.9	86.7	77.5	83.3	84.6	78.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.9	105.7	118.4	108.8	106.8	118.7
Average annual percent change:						
1947-78	3.7	3.8	3.4	3.5	3.6	3.2

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Competitive Assessment and Business Policy, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 54. Candy and other confectionery products (SIC 2065): Indexes of output, employee hours, and employees, 1963–78
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	65.3	112.0	115.0	99.8	109.8	112.2	99.2
1964	68.9	115.0	118.2	101.9	113.1	115.9	100.0
1965	71.8	115.0	119.1	97.1	112.5	116.3	96.5
1966	75.2	115.8	119.5	100.1	114.9	118.5	99.9
1967	78.9	118.1	122.7	98.3	117.1	121.5	98.1
1968	81.7	116.9	121.0	99.2	116.0	118.7	104.5
1969	77.4	118.8	122.5	103.0	117.0	119.2	107.3
1970	83.1	119.2	120.9	112.4	118.5	119.2	115.4
1971	87.8	114.6	114.7	114.5	110.4	109.1	115.4
1972	92.0	107.1	107.6	105.2	104.7	104.7	104.5
1973	97.8	106.6	102.5	125.0	104.7	100.2	123.6
1974	102.2	102.7	100.1	114.3	105.0	103.2	112.7
1975	86.0	94.7	90.9	111.2	98.8	96.2	109.9
1976	84.8	99.9	97.0	109.4	101.8	100.2	108.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.6	97.9	99.9	89.2	97.1	98.9	89.0
Average annual percent change:							
1947-78	2.7	-1.0	-1.0	-.7	-.7	-.8	-.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Competitive Assessment and Business Policy, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 55. Malt beverages (SIC 2082): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	37.4	39.1	33.8	36.8	38.1	33.7
1964	40.2	42.1	35.9	39.4	41.1	36.0
1965	42.3	44.5	37.3	41.7	43.9	37.2
1966	44.5	47.1	38.7	44.0	46.8	38.5
1967	47.4	50.2	41.7	46.5	49.0	41.4
1968	51.4	53.1	47.5	49.7	52.1	45.1
1969	54.9	57.2	49.9	53.3	56.0	47.9
1970	56.7	59.9	50.0	55.9	59.6	48.6
1971	59.4	64.4	49.6	58.2	63.1	49.1
1972	66.1	71.0	56.3	66.4	71.5	56.6
1973	73.7	75.6	69.1	74.3	76.4	69.9
1974	76.4	77.9	72.7	77.6	79.6	73.6
1975	86.1	88.0	82.2	86.0	87.3	83.0
1976	95.5	97.5	90.8	97.5	100.1	91.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.1	101.0	101.4	102.4	102.8	101.3
1979	109.9	109.2	112.1	109.9	109.0	112.3
1980	116.0	116.0	116.0	117.2	117.3	117.0
1981	118.3	121.5	111.1	118.3	121.4	111.5
1982	122.6	126.7	112.9	121.9	125.9	113.4
1983	131.3	133.0	126.8	129.7	131.0	126.8
1984	137.9	139.5	133.8	134.1	134.3	133.8
1985	130.3	137.7	114.8	129.5	136.6	115.0
1986	152.3	146.4	169.6	156.7	151.9	169.8
1987 [2]	154.8	150.2	168.1	158.9	155.4	168.3
Average annual percent change:						
1947-87	5.9	5.7	6.2	5.8	5.7	6.1
1982-87	4.5	3.3	8.0	5.5	4.4	8.0

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 56. Malt beverages (SIC 2082): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	52.3	139.7	133.9	154.7	142.3	137.3	155.0
1964	55.5	138.2	131.9	154.7	140.7	135.2	154.3
1965	57.3	135.6	128.8	153.8	137.4	130.5	154.1
1966	60.5	136.1	128.4	156.2	137.5	129.4	157.1
1967	63.0	132.8	125.6	151.1	135.5	126.5	152.0
1968	66.4	129.2	125.1	139.7	133.5	127.5	147.3
1969	69.4	126.4	121.4	139.1	130.2	124.0	145.0
1970	72.8	128.3	121.5	145.5	130.2	122.1	149.7
1971	75.4	127.0	117.1	152.1	129.5	119.5	153.5
1972	77.7	117.5	109.4	138.1	117.1	108.6	137.2
1973	83.0	112.6	109.8	120.1	111.7	108.6	118.7
1974	88.5	115.8	113.6	121.8	114.0	111.2	120.2
1975	92.0	106.8	104.6	111.9	107.0	105.4	110.9
1976	94.6	99.1	97.0	104.2	97.0	94.5	103.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.1	104.9	105.1	104.6	103.6	103.2	104.7
1979	109.7	99.8	100.5	97.9	99.8	100.6	97.7
1980	115.1	99.2	99.2	99.2	98.2	98.1	98.4
1981	117.5	99.3	96.7	105.8	99.3	96.8	105.4
1982	119.5	97.5	94.3	105.8	98.0	94.9	105.4
1983	120.0	91.4	90.2	94.6	92.5	91.6	94.6
1984	118.3	85.8	84.8	88.4	88.2	88.1	88.4
1985	118.6	91.0	86.1	103.3	91.6	86.8	103.1
1986	121.1	79.5	82.7	71.4	77.3	79.7	71.3
1987 [1]	120.0	77.5	79.9	71.4	75.5	77.2	71.3
Average annual percent change:							
1947-87	3.3	-2.4	-2.2	-2.7	-2.3	-2.2	-2.6
1982-87	1	-4.2	-3.0	-7.3	-5.0	-4.1	-7.3

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 57. Bottled and canned soft drinks (SIC 2086): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	67.1	59.2	72.6	65.9	63.2	67.5
1964	67.3	60.1	72.2	65.8	63.7	67.1
1965	67.8	60.9	72.5	66.3	64.5	67.4
1966	68.2	59.4	74.5	66.9	63.1	69.3
1967	66.6	58.5	72.2	64.8	61.1	67.1
1968	72.1	64.3	77.5	69.6	65.6	72.1
1969	69.7	64.0	73.5	67.7	64.6	69.5
1970	70.0	65.5	72.9	68.6	66.2	70.0
1971	73.9	69.7	76.4	73.2	70.6	74.8
1972	75.3	72.7	76.9	75.7	73.7	76.8
1973	79.0	77.3	80.1	79.4	77.8	80.3
1974	81.7	79.9	82.7	81.8	79.3	83.2
1975	89.5	88.5	90.1	89.4	87.6	90.5
1976	95.1	94.3	95.5	95.2	94.3	95.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.2	103.9	102.8	103.6	104.9	102.8
1979	103.4	106.8	101.5	103.7	107.9	101.5
1980	106.9	113.2	103.5	107.5	115.2	103.5
1981	110.6	121.0	105.5	110.9	121.9	105.5
1982	114.1	126.8	108.0	114.2	127.0	108.0
1983	121.5	136.2	114.5	121.6	136.7	114.5
1984	131.0	146.0	123.8	131.0	146.3	123.8
1985	136.7	151.0	129.6	137.2	152.9	129.6
1986	146.6	162.4	139.0	147.4	165.4	139.0
1987 [2]	157.3	170.6	150.6	158.6	175.4	150.6
Average annual percent change:						
1958-87	3.3	4.3	2.7	3.4	4.1	3.0
1982-87	6.5	6.0	6.8	6.7	6.6	6.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Sales Survey and Statistical Profile of the Soft Drink Industry, National Soft Drink Association; the Federal Reserve Board; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 58. Bottled and canned soft drinks (SIC 2086): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	54.6	81.4	92.3	75.2	82.9	86.4	80.9
1964	57.0	84.7	94.8	79.0	86.6	89.5	84.9
1965	59.2	87.3	97.2	81.7	89.3	91.8	87.5
1966	63.1	92.5	106.3	84.7	94.3	100.0	91.0
1967	62.7	94.2	107.2	86.9	96.8	102.7	93.4
1968	67.6	93.7	105.2	87.2	97.1	103.1	93.7
1969	67.2	96.4	105.0	91.4	99.3	104.0	96.7
1970	67.7	96.7	103.3	92.9	98.7	102.3	96.7
1971	71.3	96.5	102.3	93.3	97.4	101.0	95.3
1972	72.7	96.5	100.0	94.5	96.1	98.7	94.6
1973	77.2	97.7	99.9	96.4	97.2	99.2	96.1
1974	78.5	96.1	98.2	94.9	96.0	99.0	94.3
1975	83.0	92.7	93.8	92.1	92.8	94.8	91.7
1976	92.5	97.3	98.1	96.9	97.2	98.1	96.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.7	103.4	102.7	103.8	103.0	101.7	103.8
1979	109.3	105.7	102.3	107.7	105.4	101.3	107.7
1980	112.1	104.9	99.0	108.3	104.3	97.3	108.3
1981	113.5	102.6	93.8	107.6	102.3	93.1	107.6
1982	115.1	100.9	90.8	106.6	100.8	90.6	106.6
1983	119.2	98.1	87.5	104.1	98.0	87.2	104.1
1984	126.4	96.5	86.6	102.1	96.5	86.4	102.1
1985	131.2	96.0	86.9	101.2	95.6	85.8	101.2
1986	138.4	94.4	85.2	99.6	93.9	83.7	99.6
1987 [1]	143.1	91.0	83.9	95.0	90.2	81.6	95.0
Average annual percent change:							
1958-87	4.2	.9	-.1	1.4	.8	-.1	1.2
1982-87	4.6	-1.8	-1.3	-2.0	-2.0	-1.8	-2.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Sales Survey and Statistical Profile of the Soft Drink Industry, National Soft Drink Association; the Federal Reserve Board; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 59. All tobacco products (SIC 2111, 2121, 2131): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	78.4	74.4	112.3	84.0	78.9	126.8
1964	80.2	75.5	125.1	87.5	81.6	142.0
1965	83.4	79.2	119.5	87.2	81.9	135.1
1966	83.2	79.0	119.0	88.0	82.6	134.1
1967	83.3	79.6	112.3	87.8	82.9	126.5
1968	86.2	82.3	116.8	88.3	83.4	129.0
1969	84.8	81.6	108.8	87.6	83.5	119.5
1970	86.8	83.1	116.4	91.8	87.2	128.0
1971	91.3	88.0	117.3	95.5	91.0	128.9
1972	91.6	88.9	110.7	94.9	91.1	121.3
1973	89.5	87.2	104.4	93.4	90.3	114.7
1974	92.2	90.4	103.7	93.6	90.9	111.3
1975	93.9	93.2	97.2	95.8	94.6	102.1
1976	97.8	96.7	103.3	100.5	99.3	106.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	102.4	104.3	105.7	106.0	104.1
1979	102.1	103.5	94.4	105.1	107.3	94.6
1980	102.1	105.1	87.8	105.7	109.8	88.2
1981	100.5	103.8	84.6	102.9	107.2	84.9
1982	100.7	107.1	75.0	101.0	108.1	75.0
1983	105.1	114.1	72.3	104.3	113.9	71.9
1984	110.3	123.0	69.1	111.4	125.8	69.3
1985	113.4	125.6	72.6	112.3	125.3	72.7
1986	117.2	132.5	70.4	117.8	135.0	70.6
1987 [2]	119.2	133.1	74.4	125.6	144.0	74.7
Average annual percent change:						
1947-87	2.5	2.9	-.6	2.4	2.9	-1.0
1982-87	3.5	4.5	-.2	4.3	5.7	-.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 60. All tobacco products (SIC 2111, 2121, 2131): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	101.6	129.6	136.5	90.5	121.0	128.7	80.1
1964	110.3	137.5	146.1	88.2	126.1	135.1	77.7
1965	107.4	128.7	135.6	89.9	123.1	131.2	79.5
1966	104.6	125.7	132.4	87.9	118.9	126.6	78.0
1967	104.1	125.0	130.7	92.7	118.6	125.5	82.3
1968	106.2	123.2	129.0	90.9	120.3	127.4	82.3
1969	102.9	121.4	126.1	94.6	117.4	123.3	86.1
1970	106.9	123.1	128.6	91.8	116.4	122.6	83.5
1971	104.5	114.4	118.8	89.1	109.4	114.8	81.1
1972	104.4	114.0	117.5	94.3	110.0	114.6	86.1
1973	107.5	120.1	123.3	103.0	115.1	119.1	93.7
1974	104.3	113.1	115.4	100.6	111.4	114.8	93.7
1975	102.1	108.7	109.5	105.0	106.6	107.9	100.0
1976	105.2	107.6	108.8	101.8	104.7	105.9	98.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	100.0	100.3	98.5	97.2	96.9	98.7
1979	103.0	100.9	99.5	109.1	98.0	96.0	108.9
1980	103.8	101.7	98.8	118.2	98.2	94.5	117.7
1981	106.4	105.9	102.5	125.8	103.4	99.3	125.3
1982	100.6	99.9	93.9	134.1	99.6	93.1	134.2
1983	97.4	92.7	85.4	134.8	93.4	85.5	135.4
1984	97.4	88.3	79.2	140.9	87.4	77.4	140.5
1985	95.7	84.4	76.2	131.8	85.2	76.4	131.6
1986	93.8	80.0	70.8	133.3	79.6	69.5	132.9
1987 [1]	93.6	78.5	70.3	125.8	74.5	65.0	125.3
Average annual percent change:							
1947-87	-.6	-1.8	-2.3	1.2	-1.7	-2.3	1.6
1982-87	-1.4	-4.7	-5.7	-1.2	-5.4	-6.7	-1.3

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 61. Cigarettes, chewing and smoking tobacco (SIC 2111, 2131): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index						
1963	80.9	76.3	116.1	88.3	82.6	130.8
1964	79.7	75.1	115.0	86.9	81.3	129.9
1965	83.3	78.8	117.1	87.3	81.6	131.9
1966	83.3	79.2	114.3	89.3	84.0	128.2
1967	84.6	80.3	117.2	90.1	84.6	131.4
1968	87.6	83.2	120.4	89.4	83.6	132.9
1969	83.9	80.4	108.6	86.6	82.0	119.4
1970	85.3	81.1	116.1	90.8	85.7	127.5
1971	89.3	85.9	112.9	93.6	89.0	124.0
1972	89.8	86.5	111.4	93.3	89.0	122.0
1973	88.7	86.2	103.4	93.1	89.6	113.6
1974	89.9	88.2	99.3	92.4	89.9	106.4
1975	93.3	92.5	97.6	95.4	94.2	102.5
1976	96.7	95.4	103.8	99.9	98.6	106.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	104.0	104.3	107.6	108.3	104.3
1979	102.4	104.0	94.6	105.9	108.5	95.1
1980	101.8	104.8	88.4	105.8	110.1	89.1
1981	99.6	103.0	85.2	101.8	105.9	85.8
1982	99.5	105.8	75.6	99.5	106.4	75.7
1983	104.1	113.3	73.0	103.0	112.5	73.1
1984	107.2	119.5	69.3	108.8	123.0	69.7
1985	111.7	123.8	73.8	110.6	123.0	74.1
1986	115.5	130.3	72.4	116.1	132.2	72.7
1987 [2]	121.2	134.6	79.2	127.8	145.9	79.7
Average annual percent change						
1947-87	1.5	2.0	-1.1	1.3	1.8	-1.5
1982-87	3.9	4.9	.8	4.8	6.1	.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 62. Cigarettes, chewing and smoking tobacco (SIC 2111, 2131): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index							
1963	82.8	102.4	108.5	71.3	93.8	100.2	63.3
1964	82.1	103.0	109.3	71.4	94.5	101.0	63.2
1965	83.5	100.3	106.0	71.3	95.6	102.3	63.3
1966	84.5	101.4	106.7	73.9	94.6	100.6	65.9
1967	85.8	101.4	106.8	73.2	95.2	101.4	65.3
1968	86.8	99.1	104.3	72.1	97.1	103.8	65.3
1969	84.5	100.7	105.1	77.8	97.6	103.1	70.8
1970	88.6	103.9	109.2	76.3	97.6	103.4	69.5
1971	87.8	98.3	102.2	77.8	93.8	98.6	70.8
1972	91.5	101.9	105.8	82.1	98.1	102.8	75.0
1973	97.8	110.2	113.4	94.6	105.1	109.1	86.1
1974	96.1	106.9	108.9	96.8	104.0	106.9	90.3
1975	98.2	105.3	106.2	100.6	102.9	104.3	95.8
1976	103.9	107.4	108.9	100.1	104.0	105.4	97.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.3	100.3	100.3	100.0	96.9	96.3	100.0
1979	105.7	103.2	101.6	111.7	99.8	97.4	111.1
1980	107.6	105.7	102.7	121.7	101.7	97.7	120.8
1981	110.8	111.2	107.6	130.0	108.8	104.6	129.2
1982	105.2	105.7	99.4	139.2	105.7	98.9	138.9
1983	101.6	97.6	89.7	139.2	98.6	90.3	138.9
1984	101.6	94.8	85.0	146.7	93.4	82.6	145.8
1985	100.9	90.3	81.5	136.7	91.2	82.0	136.1
1986	99.0	85.7	76.0	136.7	85.3	74.9	136.1
1987 [1]	103.0	85.0	76.5	130.0	80.6	70.6	129.2
Average annual percent change							
1947-87	1.5	(2)	-.4	2.7	.2	-.3	3.1
1982-87	-.5	-4.3	-5.1	-1.3	-5.1	-6.2	-1.4

[1] Preliminary.

[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; the Bureau of the Census; and Agricultural Marketing Service, U.S. Department of Agriculture. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 63. Cigars (SIC 2121): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	71.6	71.7	68.8	73.5	73.1	78.8
1964	79.1	77.6	98.3	85.6	83.7	113.1
1965	81.5	81.5	81.6	84.2	83.3	93.5
1966	80.6	79.8	89.9	82.5	80.9	102.6
1967	78.0	79.2	67.4	80.0	80.4	76.9
1968	80.9	81.8	72.5	83.3	83.7	80.0
1969	84.4	85.6	74.0	87.2	87.9	81.3
1970	88.4	89.4	80.2	91.6	91.9	88.0
1971	93.7	93.8	92.8	97.1	96.6	101.9
1972	93.8	95.6	77.1	96.0	97.6	84.3
1973	89.5	90.2	82.7	92.1	92.2	90.7
1974	96.9	96.3	103.4	93.7	92.4	110.9
1975	93.7	95.2	79.9	94.0	95.2	83.8
1976	99.9	100.7	92.3	99.5	99.9	95.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.0	95.6	114.8	96.9	95.6	111.6
1979	101.4	100.8	107.7	101.6	101.2	104.7
1980	106.4	106.9	102.0	107.3	108.1	99.2
1981	107.3	108.0	100.1	112.7	114.4	97.3
1982	111.4	113.8	91.4	115.0	118.4	88.8
1983	112.3	117.7	75.1	115.7	122.3	75.1
1984	141.4	149.2	90.3	138.0	146.3	87.7
1985	129.3	136.9	81.5	130.8	139.7	79.2
1986	133.1	147.0	66.0	137.2	153.8	66.0
1987 [2]	111.1	121.8	57.6	115.4	129.4	56.0
Average annual percent change:						
1947-87	4.1	4.3	2.2	4.1	4.4	1.7
1982-87	1.2	2.7	-7.7	1.4	3.2	-7.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 64. Cigars (SIC 2121): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	198.0	276.7	276.1	287.7	269.4	270.8	251.4
1964	255.9	323.5	329.9	260.4	298.8	305.7	226.2
1965	230.2	282.5	282.5	282.1	273.3	276.2	246.3
1966	207.5	257.5	259.9	230.8	251.6	256.5	202.3
1967	197.6	253.2	249.4	293.3	246.9	245.7	257.1
1968	205.7	254.4	251.6	283.6	248.9	245.7	257.1
1969	197.2	233.7	230.4	266.6	226.2	224.3	242.7
1970	201.0	227.3	224.9	250.7	219.5	218.7	228.5
1971	189.1	201.8	201.5	203.8	194.8	195.8	185.6
1972	168.6	179.7	176.3	218.8	175.6	172.7	200.0
1973	155.5	173.7	172.3	188.0	168.9	168.6	171.5
1974	142.5	147.1	147.9	137.8	152.1	154.3	128.5
1975	119.8	127.8	125.9	149.9	127.4	125.8	142.9
1976	108.5	108.6	107.7	117.6	109.1	108.6	114.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	95.6	98.6	100.0	83.3	98.7	100.0	85.7
1979	89.7	88.5	89.0	83.3	88.3	88.6	85.7
1980	85.0	79.9	79.5	83.3	79.2	78.6	85.7
1981	83.4	77.7	77.2	83.3	74.0	72.9	85.7
1982	76.1	68.3	66.9	83.3	66.2	64.3	85.7
1983	75.1	66.9	63.8	100.0	64.9	61.4	100.0
1984	75.2	53.2	50.4	83.3	54.5	51.4	85.7
1985	67.9	52.5	49.6	83.3	51.9	48.6	85.7
1986	66.0	49.6	44.9	100.0	48.1	42.9	100.0
1987 [1]	48.0	43.2	39.4	83.3	41.6	37.1	85.7
Average annual percent change:							
1947-87	-2.7	-6.5	-6.7	-4.7	-6.5	-6.7	-4.3
1982-87	-7.7	-8.7	-10.1	([2])	-8.9	-10.5	([2])

[1] Preliminary.

[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Alcohol, Tobacco, and Firearms, U.S. Department of the Treasury; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 65. Cotton and synthetic broad woven fabrics (SIC 2211, 2221): Indexes of output per employee hour and output per employee, 1972–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	85.8	85.7	86.7	89.2	89.0	90.3
1973	76.6	76.5	77.1	78.9	79.0	78.4
1974	79.2	79.4	78.0	78.8	79.0	77.5
1975	86.7	87.2	83.0	84.4	84.6	82.6
1976	86.9	86.8	88.8	87.4	87.2	88.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.5	93.8	92.6	94.8	95.0	92.6
1979	100.7	100.5	102.8	102.5	102.5	102.8
1980	104.9	105.0	104.1	105.6	105.8	104.1
1981	107.4	108.0	101.0	107.0	107.7	101.0
1982	112.5	115.5	89.9	103.8	105.6	89.9
1983	121.8	122.9	112.4	122.1	123.2	112.4
1984	119.9	120.7	112.5	118.8	119.6	112.5
1985	123.7	124.8	113.8	120.6	121.5	113.8
1986	132.9	133.1	130.5	134.8	135.4	130.5
1987 [2]	133.7	133.1	137.9	139.6	139.8	137.9
Average annual percent change:						
1972-87	3.8	3.8	3.3	3.6	3.7	3.2
1982-87	3.4	2.8	7.7	5.3	5.0	7.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 66. Cotton and synthetic broad woven fabrics (SIC 2211, 2221): Indexes of output, employee hours, and employees, 1972–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	89.4	104.2	104.3	103.1	100.2	100.4	99.0
1973	80.6	105.2	105.3	104.6	102.1	102.0	102.8
1974	79.7	100.6	100.4	102.2	101.1	100.9	102.8
1975	79.5	91.7	91.2	95.8	94.2	94.0	96.2
1976	89.2	102.6	102.8	100.5	102.1	102.3	100.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.4	96.7	96.6	97.6	95.4	95.2	97.6
1979	97.5	96.8	97.0	94.8	95.1	95.1	94.8
1980	98.0	93.4	93.3	94.1	92.8	92.6	94.1
1981	94.7	88.2	87.7	93.8	88.5	87.9	93.8
1982	81.2	72.2	70.3	90.3	78.2	76.9	90.3
1983	92.3	75.8	75.1	82.1	75.6	74.9	82.1
1984	90.3	75.3	74.8	80.3	76.0	75.5	80.3
1985	82.4	66.6	66.0	72.4	68.3	67.8	72.4
1986	86.0	64.7	64.6	65.9	63.8	63.5	65.9
1987 [1]	91.3	68.3	68.6	66.2	65.4	65.3	66.2
Average annual percent change:							
1972-87	.3	-3.3	-3.4	-2.9	-3.2	-3.3	-2.8
1982-87	2.4	-2.5	-2.0	-6.4	-4.2	-4.0	-6.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 67. Hosiery (SIC 2251, 2252): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	38.8	38.1	46.3	38.9	38.0	49.1
1964	41.4	40.6	50.4	42.6	41.6	53.6
1965	41.4	40.6	50.4	42.3	41.3	53.3
1966	45.5	44.8	53.2	47.0	46.1	56.0
1967	51.1	50.7	56.0	52.1	51.4	59.2
1968	47.9	47.7	49.9	49.0	48.5	54.6
1969	55.2	55.0	57.1	56.5	56.0	61.0
1970	65.5	65.8	63.6	63.5	63.2	66.6
1971	61.8	62.2	52.6	60.3	60.9	55.4
1972	71.2	72.6	61.5	71.9	72.8	64.8
1973	74.6	76.4	63.1	72.1	73.0	64.9
1974	84.0	85.9	71.0	80.5	81.7	70.9
1975	94.3	96.4	79.8	89.2	90.3	80.1
1976	106.4	107.9	96.7	105.1	106.1	97.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	102.6	98.5	103.0	103.6	98.5
1979	107.9	109.8	93.4	112.0	114.5	94.0
1980	107.4	110.3	87.5	111.2	114.6	88.5
1981	122.0	125.6	96.8	127.7	132.5	97.3
1982	114.2	116.2	99.3	113.4	115.2	99.5
1983	118.0	117.6	122.6	121.3	121.1	122.6
1984	119.9	123.3	96.5	123.5	127.5	96.8
1985	118.5	119.7	109.7	124.0	125.9	109.8
1986	121.0	122.2	111.5	127.7	129.9	112.1
1987 [2]	121.1	121.6	116.0	129.3	131.0	116.2
Average annual percent change:						
1947-87	5.7	5.8	4.4	5.7	5.9	4.2
1982-87	1.0	.9	1.8	2.4	2.4	1.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Association of Hosiery Manufacturers, Inc., and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 68. Hosiery (SIC 2251, 2252): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	62.7	161.7	164.5	135.4	161.3	165.1	127.8
1964	66.6	160.7	164.0	132.2	156.5	160.1	124.2
1965	70.2	169.6	172.8	139.4	165.9	169.8	131.7
1966	77.4	170.1	172.8	145.6	164.6	167.8	138.1
1967	85.8	167.8	169.2	153.1	164.7	166.9	144.9
1968	84.6	176.8	177.3	169.7	172.8	174.6	154.9
1969	102.7	186.1	186.6	179.8	181.7	183.3	168.3
1970	110.9	169.3	168.5	174.3	174.6	175.5	166.5
1971	92.2	149.2	146.0	175.2	152.9	151.3	166.5
1972	100.3	140.9	138.2	163.2	139.5	137.7	154.9
1973	97.3	130.4	127.4	154.1	134.9	133.2	149.9
1974	88.5	105.4	103.0	124.7	110.0	108.3	124.9
1975	90.8	96.3	94.2	113.8	101.8	100.5	113.3
1976	101.1	95.0	93.7	104.6	96.2	95.3	103.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.7	104.5	104.0	108.3	103.6	103.0	108.3
1979	119.1	110.4	108.5	127.5	106.3	104.0	126.7
1980	118.0	109.9	107.0	134.9	106.1	103.0	133.3
1981	131.4	107.7	104.6	135.8	102.9	99.2	135.0
1982	121.1	106.0	104.2	122.0	106.8	105.1	121.7
1983	132.8	112.5	112.9	108.3	109.5	109.7	108.3
1984	135.5	113.0	109.9	140.4	109.7	106.3	140.0
1985	131.8	111.2	110.1	120.2	106.3	104.7	120.0
1986	138.2	114.2	113.1	123.9	108.2	106.4	123.3
1987 [1]	139.4	115.1	114.6	120.2	107.8	106.4	123.0
Average annual percent change:							
1947-87	3.2	-2.3	-2.5	-1.1	-2.4	-2.5	-.9
1982-87	2.3	1.3	1.4	.5	-.1	-.1	.5

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Association of Hosiery Manufacturers, Inc., and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 69. Yarn mills, except wool (SIC 2281): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	76.3	74.7	106.1	75.9	74.0	109.3
1964	80.6	79.9	91.3	83.1	82.1	94.4
1965	84.3	83.2	108.1	90.1	88.5	112.0
1966	81.8	79.9	120.2	85.5	83.3	123.5
1967	77.5	76.1	102.8	77.0	75.2	106.2
1968	80.2	78.9	102.4	81.9	80.0	112.2
1969	84.5	83.3	105.7	83.3	81.4	112.4
1970	84.3	83.6	96.7	82.2	80.9	101.0
1971	90.3	89.5	101.6	91.9	90.9	106.5
1972	91.0	90.2	105.3	94.6	93.5	110.5
1973	85.0	84.1	99.2	86.6	85.5	101.1
1974	89.1	89.4	87.1	84.8	84.6	86.9
1975	101.2	102.0	92.6	93.7	93.9	92.2
1976	93.5	93.1	100.1	91.8	91.2	100.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.2	104.1	105.4	103.5	103.3	105.3
1979	103.8	103.7	106.0	103.2	103.0	106.1
1980	99.7	100.4	91.3	96.9	97.4	91.4
1981	103.1	104.0	92.3	98.8	99.3	92.2
1982	118.2	119.7	101.7	109.0	109.7	101.6
1983	128.5	128.9	123.9	127.6	127.9	123.3
1984	129.6	130.7	115.4	125.2	126.2	115.8
1985	134.5	135.8	118.7	128.6	129.6	119.2
1986	141.1	141.1	140.9	145.3	145.7	141.1
1987 [2]	142.8	142.1	151.5	148.2	147.8	152.1
Average annual percent change:						
1958-87	2.6	2.7	1.2	2.6	2.7	1.0
1982-87	3.7	3.4	7.1	5.7	5.6	7.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 70. Yarn mills, except wool (SIC 2281): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	50.3	65.9	67.3	47.4	66.3	68.0	46.0
1964	57.4	71.2	71.8	62.9	69.1	69.7	60.8
1965	66.5	78.6	79.9	61.5	73.8	75.1	59.4
1966	66.7	81.5	83.5	55.5	78.0	80.1	54.0
1967	61.7	79.6	81.1	60.0	80.1	82.0	58.1
1968	68.2	85.0	86.4	66.6	83.3	85.2	60.8
1969	74.4	88.0	89.3	70.4	89.3	91.4	66.2
1970	70.9	84.1	84.8	73.3	86.3	87.6	70.2
1971	82.0	90.8	91.6	80.7	89.2	90.2	77.0
1972	91.2	100.2	101.1	86.6	96.4	97.5	82.5
1973	88.9	104.6	105.7	89.6	102.7	104.0	87.9
1974	85.8	96.3	96.0	98.5	101.2	101.4	98.7
1975	82.2	81.2	80.6	88.8	87.7	87.5	89.2
1976	89.7	95.9	96.3	89.6	97.7	98.4	89.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.8	99.6	99.7	98.5	100.3	100.5	98.6
1979	98.9	95.3	95.4	93.3	95.8	96.0	93.2
1980	92.7	93.0	92.3	101.5	95.7	95.2	101.4
1981	90.9	88.2	87.4	98.5	92.0	91.5	98.6
1982	85.1	72.0	71.1	83.7	78.1	77.6	83.8
1983	100.0	77.8	77.6	80.7	78.4	78.2	81.1
1984	101.7	78.5	77.8	88.1	81.2	80.6	87.8
1985	96.7	71.9	71.2	81.5	75.2	74.6	81.1
1986	110.6	78.4	78.4	78.5	76.1	75.9	78.4
1987 [1]	121.2	84.9	86.3	80.0	81.8	82.0	79.7
Average annual percent change:							
1958-87	3.4	.8	.7	2.2	.8	.7	2.4
1982-87	5.9	2.2	2.5	-1.1	.2	.3	-1.2

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 71. Men's and boys' suits and coats (SIC 2311): Indexes of output per employee hour and output per employee, 1967–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	74.2	73.2	81.3	77.0	76.3	83.1
1968	75.0	74.1	81.4	78.5	78.0	82.1
1969	72.9	72.4	75.9	75.9	75.9	76.4
1970	75.1	75.8	70.7	73.5	73.9	70.9
1971	77.0	77.2	75.7	75.5	75.5	75.2
1972	90.2	89.7	93.8	91.2	91.0	92.5
1973	84.2	83.3	90.8	84.4	84.5	84.1
1974	88.6	88.2	92.9	84.8	85.5	80.5
1975	95.2	95.7	91.6	89.6	90.6	83.5
1976	90.9	90.1	97.2	90.8	90.5	92.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	92.6	92.2	95.0	92.6	92.2	95.0
1979	96.9	96.7	86.6	95.4	96.8	86.6
1980	97.3	97.6	95.4	97.6	97.9	95.4
1981	98.8	98.8	98.8	99.8	99.9	98.8
1982	95.2	96.0	90.4	92.9	93.3	90.4
1983	90.2	90.6	88.1	89.8	90.0	88.1
1984	96.9	96.8	97.7	96.3	96.4	97.7
1985	106.3	107.3	100.8	104.0	104.5	100.8
1986	107.5	109.7	94.1	106.0	107.8	94.1
1987 [2]	114.8	117.2	100.8	114.6	116.8	100.8
Average annual percent change:						
1967-87	1.9	2.0	1.2	1.8	1.9	1.3
1982-87	4.5	4.9	2.2	4.7	5.1	2.2

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 72. Men's and boys' suits and coats (SIC 2311): Indexes of output, employee hours, and employees, 1967–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	108.1	145.7	147.7	133.0	140.3	141.7	130.1
1968	112.6	150.2	152.0	138.4	143.5	144.4	137.2
1969	110.1	151.1	152.0	145.1	145.0	145.1	144.2
1970	96.0	127.9	126.7	135.8	130.6	129.9	135.4
1971	89.9	116.7	116.4	118.8	119.1	119.0	119.5
1972	112.9	125.1	125.8	120.3	123.8	124.1	122.1
1973	106.4	126.3	127.7	117.2	126.0	125.9	126.5
1974	99.0	111.5	112.2	106.6	116.7	115.8	123.0
1975	86.4	90.8	90.3	94.3	96.4	95.4	103.5
1976	89.6	98.6	99.5	92.2	98.7	99.0	96.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.8	98.1	98.5	95.6	98.1	98.5	95.6
1979	85.0	87.7	86.1	98.2	89.1	87.8	98.2
1980	82.7	85.0	84.7	86.7	84.7	84.5	86.7
1981	84.0	85.0	85.0	85.0	84.2	84.1	85.0
1982	76.8	80.7	80.0	85.0	82.7	82.3	85.0
1983	69.4	76.9	76.6	78.8	77.3	77.1	78.8
1984	76.1	78.5	78.6	77.9	77.4	77.3	77.9
1985	72.3	68.0	67.4	71.7	69.5	69.2	71.7
1986	69.2	64.4	63.1	73.5	65.3	64.2	73.5
1987 [1]	72.3	63.0	61.7	71.7	63.1	61.9	71.7
Average annual percent change:							
1967-87	-2.4	-4.2	-4.3	-3.5	-4.1	-4.1	-3.5
1982-87	-1.0	-5.3	-5.6	-3.2	-5.5	-5.8	-3.2

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 73. Sawmills and planing mills, general (SIC 2421): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index						
1963	79.7	79.0	86.1	77.1	76.1	85.1
1964	84.7	84.3	87.4	83.4	82.9	86.6
1965	81.8	80.9	89.8	80.0	79.0	88.8
1966	82.7	81.6	92.0	80.6	79.3	91.4
1967	89.2	87.2	111.1	86.5	84.3	109.5
1968	91.5	90.0	106.1	89.9	88.2	106.7
1969	90.7	89.5	101.8	88.6	87.0	102.5
1970	90.0	90.1	89.2	88.0	87.7	90.6
1971	98.1	97.9	105.2	96.2	94.9	106.9
1972	107.6	106.8	114.1	107.5	106.5	116.0
1973	100.2	99.6	106.0	100.1	99.3	106.9
1974	95.4	95.9	91.5	93.2	93.5	91.3
1975	98.8	98.9	98.1	96.7	96.5	98.2
1976	103.2	103.1	103.2	102.2	102.0	103.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.3	102.9	96.8	100.5	101.0	96.9
1979	106.3	107.3	99.0	103.5	104.1	99.3
1980	104.2	107.7	82.4	101.1	103.9	83.2
1981	107.9	111.1	86.3	104.3	107.1	86.6
1982	115.1	119.3	89.0	110.2	113.5	89.4
1983	126.8	129.3	109.4	123.1	125.1	109.3
1984	132.3	134.5	116.0	128.4	130.0	116.5
1985	139.2	141.1	125.3	136.9	138.3	126.0
1986	155.1	157.5	136.1	153.5	155.5	138.6
1987 [2]	151.6	154.4	131.3	151.1	154.0	131.8
Average annual percent change:						
1958–87	2.5	2.7	1.1	2.6	2.7	1.2
1982–87	6.0	5.7	8.1	6.8	6.6	8.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Forest Product Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 74. Sawmills and planing mills, general (SIC 2421): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index							
1963	91.2	114.4	115.4	105.9	118.3	119.8	107.2
1964	94.7	111.8	112.3	108.3	113.5	114.2	109.3
1965	92.0	112.5	113.7	102.5	115.0	116.5	103.6
1966	89.6	108.4	109.8	96.3	111.2	113.0	98.0
1967	89.1	99.9	102.2	80.2	103.0	105.7	81.4
1968	90.2	98.6	100.2	85.0	100.3	102.3	84.5
1969	89.8	99.0	100.3	88.2	101.3	103.2	87.6
1970	87.5	97.0	96.9	97.9	99.2	99.6	96.4
1971	93.1	94.9	95.7	88.5	96.8	98.1	87.1
1972	102.2	95.0	95.7	89.6	95.1	96.0	88.1
1973	99.2	99.0	99.6	93.6	99.1	99.9	92.6
1974	92.3	96.7	96.2	100.9	99.0	98.7	101.1
1975	86.1	89.2	89.1	89.8	91.1	91.3	89.7
1976	96.6	95.5	95.6	95.5	96.5	96.7	94.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.4	97.2	96.6	102.7	98.9	98.4	102.6
1979	104.5	98.3	97.4	105.6	101.0	100.4	105.2
1980	101.2	97.1	94.0	122.8	100.1	97.4	121.6
1981	96.0	89.0	86.4	111.3	92.0	89.6	110.8
1982	83.0	72.1	69.6	93.3	75.3	73.1	92.8
1983	100.3	79.1	77.5	91.7	81.5	80.2	91.8
1984	104.5	79.0	77.7	90.1	81.4	80.4	89.7
1985	106.5	76.5	75.5	85.0	77.8	77.0	84.5
1986	123.6	79.7	78.5	89.5	80.5	79.5	89.2
1987	125.7	82.9	81.4	95.7	83.2	81.6	95.4
Average annual percent change:							
1958–87	.8	-1.7	-1.8	-.3	-1.7	-1.9	-.4
1982–87	8.1	2.8	2.3	(3)	1.2	1.4	(3)

[1] Preliminary.

[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the National Forest Product Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 75. Millwork (SIC 2431): Indexes of output per employee hour and output per employee, 1963–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	86.0	86.0	86.5	88.6	88.9	87.3
1964	86.0	85.9	87.2	88.3	88.3	88.0
1965	85.8	86.1	85.2	88.2	88.7	86.0
1966	82.7	84.0	78.4	84.4	85.7	79.3
1967	92.6	93.3	90.1	94.9	96.0	91.0
1968	93.9	93.7	96.0	95.5	95.9	94.4
1969	96.3	96.6	95.7	96.2	96.6	94.9
1970	95.9	97.6	89.7	95.7	97.2	89.8
1971	95.9	95.3	99.3	96.3	96.8	95.1
1972	107.2	104.5	121.6	107.0	106.1	111.3
1973	102.3	101.6	106.7	101.6	101.6	101.7
1974	92.7	94.4	85.5	91.3	92.8	84.6
1975	100.[illegible]	102.6	90.9	100.4	102.8	90.3
1976	99.1	99.6	97.3	98.8	99.2	97.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.3	90.2	90.6	89.9	89.7	90.6
1979	92.2	93.5	86.5	90.9	91.8	86.5
1980	93.6	97.2	79.8	92.0	95.0	79.8
1981	96.4	99.8	83.2	94.5	97.3	83.2
1982	86.1	91.2	68.3	85.0	89.6	68.3
1983	87.9	89.7	80.2	89.5	91.7	80.2
1984	88.7	89.8	83.9	89.4	90.7	83.9
1985	85.7	86.8	80.9	87.3	88.8	80.9
1986 [2]	90.1	91.2	85.2	92.2	93.8	85.2
Average annual percent change:						
1958-86	.6	.7	.4	.5	.6	.3
1982-86	.7	-.3	4.6	1.4	.6	4.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 76. Millwork (SIC 2431): Indexes of output, employee hours, and employees, 1963–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	68.1	79.2	79.2	78.7	76.9	76.6	78.0
1964	69.2	80.5	80.0	79.4	78.4	78.4	78.6
1965	70.2	81.8	81.5	82.4	79.6	79.1	81.6
1966	66.6	80.5	79.3	84.9	78.9	77.7	84.0
1967	72.8	78.4	77.8	80.6	76.5	75.6	79.8
1968	78.7	83.8	84.0	82.0	82.4	82.1	83.4
1969	80.4	83.5	83.2	84.0	83.6	83.2	84.7
1970	77.1	80.4	79.0	86.0	80.6	79.3	85.9
1971	84.0	87.6	88.1	84.6	87.2	86.8	88.3
1972	103.6	96.6	99.1	85.2	96.8	97.6	93.1
1973	104.7	102.3	103.1	98.1	103.1	103.1	103.0
1974	84.6	91.3	89.6	99.0	92.7	91.2	100.0
1975	84.1	83.9	82.0	92.5	83.8	81.8	93.1
1976	92.5	93.3	92.9	95.1	93.6	93.2	95.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.8	105.0	105.1	104.6	105.5	105.7	104.6
1979	94.5	102.5	101.1	109.7	104.0	102.9	109.2
1980	85.9	91.8	88.4	107.6	93.4	90.4	107.6
1981	86.4	89.6	85.6	103.8	91.4	88.8	103.8
1982	73.0	84.8	80.0	106.9	85.9	81.5	106.9
1983	88.8	101.0	99.0	110.7	99.2	96.8	110.7
1984	99.2	111.9	110.5	118.3	111.0	109.4	118.3
1985	101.9	118.9	117.4	126.0	116.7	114.8	126.0
1986	114.5	127.1	125.5	134.4	124.2	122.1	134.4
Average annual percent change:							
1958-86	2.0	1.4	1.3	1.7	1.5	1.4	1.7
1982-86	10.9	10.2	11.3	8.0	9.4	10.3	8.0

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 77. Wood kitchen cabinets (SIC 2434): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	82.2	80.8	90.0	84.8	85.3	82.4
1973	83.2	83.2	82.9	84.5	85.7	79.0
1974	78.0	80.7	67.1	78.5	81.3	66.5
1975	86.1	90.3	70.0	85.3	89.1	69.6
1976	81.0	81.4	78.9	81.0	81.4	78.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.8	97.4	99.5	100.4	100.5	99.5
1979	92.1	91.4	95.7	92.5	91.9	95.7
1980	98.2	100.5	87.9	97.2	99.2	87.9
1981	94.8	99.5	76.6	94.4	98.8	76.6
1982	96.1	104.3	69.2	95.5	103.0	69.2
1983	94.3	98.6	77.5	98.1	103.3	77.5
1984	94.2	95.6	87.6	99.5	102.2	87.6
1985	89.1	90.8	81.6	92.5	94.9	81.6
1986 [2]	87.0	89.4	76.9	90.7	93.9	76.9
Average annual percent change:						
1972–86	.9	1.1	-.2	1.1	1.3	.2
1982–86	-2.5	-3.8	2.7	-1.6	-2.7	2.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 78. Wood kitchen cabinets (SIC 2434): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	73.1	88.9	90.5	81.2	86.2	85.7	88.7
1973	80.1	96.3	96.3	96.6	94.8	93.5	101.4
1974	68.4	87.7	84.8	101.9	87.1	84.1	102.8
1975	60.8	70.6	67.3	86.8	71.3	68.2	87.3
1976	67.6	83.5	83.0	85.7	83.5	83.0	85.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.5	116.1	116.5	114.1	113.1	112.9	114.1
1979	113.2	122.9	123.8	118.3	122.4	123.2	118.3
1980	106.4	108.4	105.9	121.1	109.5	107.3	121.1
1981	100.4	105.9	100.8	131.0	106.3	101.6	131.0
1982	90.7	94.4	87.0	131.0	95.0	88.1	131.0
1983	108.1	114.6	109.6	139.4	110.2	104.6	139.4
1984	126.4	136.3	134.3	146.5	129.0	125.6	146.5
1985	126.4	141.8	139.2	154.9	136.7	133.2	154.9
1986	134.2	154.2	150.1	174.6	148.0	142.9	174.6
Average annual percent change:							
1972–86	4.9	3.9	3.7	5.0	3.7	3.5	4.7
1982–86	9.9	12.7	14.2	7.0	11.7	12.9	7.0

Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 79. Veneer and plywood (SIC 2435, 2436): Indexes of output per employee hour and output per employee, 1963–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	60.7	58.3	90.5	61.7	59.2	91.1
1964	62.6	60.4	89.1	64.1	61.9	89.6
1965	64.0	62.1	85.5	66.1	64.3	86.3
1966	64.3	62.5	83.3	65.8	64.0	83.9
1967	69.9	68.5	82.6	70.3	68.9	83.2
1968	73.5	71.7	91.1	75.2	73.7	89.4
1969	73.2	71.9	86.2	73.8	72.5	85.5
1970	83.2	83.0	83.7	82.2	82.0	83.7
1971	87.6	87.3	90.8	88.2	87.9	90.6
1972	89.8	88.8	98.7	93.0	92.5	98.2
1973	87.5	87.5	86.3	88.2	88.5	85.6
1974	87.8	88.8	80.7	85.9	86.7	79.9
1975	97.8	99.9	83.2	94.5	96.2	82.6
1976	97.9	98.1	96.3	97.6	97.8	96.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.7	102.3	97.6	101.3	101.8	97.6
1979	94.5	96.4	81.7	92.5	94.1	81.7
1980	102.8	105.8	82.9	98.3	100.7	82.9
1981	106.9	108.2	97.0	101.7	102.4	97.0
1982	114.4	117.3	94.9	107.0	108.8	94.9
1983	121.1	121.4	118.0	119.5	119.6	118.0
1984	120.0	119.3	126.6	118.2	117.2	126.6
1985	125.1	123.4	141.8	124.0	122.2	141.8
1986 [2]	126.6	124.6	145.7	127.2	125.2	145.7
Average annual percent change:						
1958-86	3.7	3.9	1.9	3.5	3.7	1.8
1982-86	2.4	1.4	11.0	3.9	3.1	11.0

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 80. Veneer and plywood (SIC 2435, 2436): Indexes of output, employee hours, and employees, 1963–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	56.3	92.8	96.6	62.2	91.3	95.1	61.8
1964	62.0	99.0	102.7	69.6	96.7	100.1	69.2
1965	68.2	106.5	109.8	79.7	103.1	106.1	79.0
1966	72.5	112.8	116.0	87.0	110.2	113.2	86.4
1967	70.9	101.5	103.5	85.8	100.9	102.9	85.2
1968	77.2	105.1	107.7	84.7	102.7	104.7	86.4
1969	75.9	103.7	105.6	88.0	102.9	104.7	88.8
1970	78.5	94.4	94.6	93.8	95.5	95.7	93.8
1971	88.3	100.8	101.2	97.3	100.1	100.4	97.5
1972	95.7	106.6	107.8	97.0	102.9	103.5	97.5
1973	94.1	107.6	107.5	109.1	106.7	106.3	109.9
1974	83.8	95.4	94.4	103.9	97.5	96.6	104.9
1975	80.5	82.3	80.6	96.8	85.2	83.7	97.5
1976	92.5	94.5	94.3	96.1	94.8	94.6	96.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.0	104.2	103.6	108.6	104.6	104.1	108.6
1979	96.8	102.4	100.4	118.5	104.6	102.9	118.5
1980	88.0	85.6	83.2	106.2	89.5	87.4	105.2
1981	88.7	83.0	82.0	91.4	87.2	86.6	91.4
1982	82.0	71.7	69.9	86.4	76.6	75.4	86.4
1983	97.6	80.6	80.4	82.7	81.7	81.6	82.7
1984	100.0	83.3	83.8	79.0	84.6	85.3	79.0
1985	99.8	79.8	80.9	70.4	80.5	81.7	70.4
1986 [1]	104.3	82.4	83.7	71.6	82.0	83.3	71.6
Average annual percent change:							
1958-86	3.2	-.5	-.7	1.2	-.3	-.5	1.3
1982-86	5.2	2.7	3.7	-5.2	1.2	2.0	-5.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 83. Softwood veneer and plywood (SIC 2436): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	93.5	92.7	100.4	97.3	96.9	99.9
1973	92.4	93.8	81.7	92.8	94.5	81.1
1974	91.1	92.9	72.3	88.4	90.9	71.6
1975	100.5	104.1	78.1	97.0	100.0	77.5
1976	102.1	102.8	97.1	101.7	102.3	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	103.4	92.3	102.0	103.4	92.3
1979	93.4	96.3	74.0	90.9	93.5	74.0
1980	102.7	107.1	75.9	97.8	101.4	75.9
1981	111.8	113.0	102.4	104.1	104.2	102.4
1982	122.1	124.7	103.6	114.3	115.7	103.6
1983	127.3	126.8	132.8	125.7	124.9	132.8
1984	129.6	127.7	149.3	127.7	125.5	149.3
1985	128.8	125.3	169.6	128.1	124.5	169.6
1986 [2]	128.8	125.2	169.1	130.3	126.8	169.1
Average annual percent change:						
1972-86	2.8	2.5	5.1	2.6	2.3	5.1
1982-86	1.2	[3]	13.0	2.8	1.8	13.0

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 84. Softwood veneer and plywood (SIC 2436): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	92.1	98.5	99.3	91.7	94.7	95.0	92.2
1973	92.2	99.8	98.3	112.9	99.4	97.6	113.7
1974	81.4	89.4	86.7	112.6	92.1	89.5	113.7
1975	82.1	81.7	78.9	105.1	84.6	82.1	105.9
1976	96.9	94.9	94.3	99.8	95.3	94.7	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.8	104.6	103.3	115.7	104.7	103.3	115.7
1979	94.4	101.1	98.0	127.5	103.8	101.0	127.5
1980	84.9	82.7	79.3	111.8	86.8	83.7	111.8
1981	86.3	77.2	76.4	84.3	82.9	82.8	84.3
1982	83.3	68.2	66.8	80.4	72.9	72.0	80.4
1983	98.9	77.7	78.0	74.5	78.7	79.2	74.5
1984	102.4	79.0	80.2	66.6	80.2	81.6	68.6
1985	99.7	77.4	79.6	58.8	77.8	80.1	58.8
1986 [1]	102.8	79.8	82.1	60.8	78.9	81.1	60.8
Average annual percent change:							
1972-86	.8	-2.0	-1.7	-4.1	-1.8	-1.5	-4.1
1982-86	4.4	3.2	4.4	-7.6	1.5	2.5	-7.6

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 81. Hardwood veneer and plywood (SIC 2435): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	84.9	83.5	97.0	87.7	86.6	96.5
1973	80.5	78.8	95.5	81.8	80.4	94.9
1974	83.4	81.7	99.6	82.7	81.1	96.6
1975	92.5	92.4	93.5	89.6	89.2	92.8
1976	89.1	88.7	93.2	89.1	88.7	93.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	99.8	107.7	99.5	98.6	107.7
1979	97.9	97.7	98.9	96.3	96.1	98.9
1980	104.1	104.9	97.9	100.4	100.7	97.9
1981	100.3	101.6	91.1	99.4	100.5	91.1
1982	101.4	104.6	81.9	95.1	97.2	81.9
1983	110.1	111.8	97.8	108.6	110.3	97.8
1984	103.9	104.8	98.0	102.6	103.3	98.0
1985	118.4	119.6	110.7	116.9	117.9	110.7
1986 [2]	122.8	123.4	119.1	122.5	123.1	119.1
Average annual percent change:						
1972-86	2.6	2.8	.6	2.4	2.6	.7
1982-86	4.7	4.1	9.1	6.0	5.5	9.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 82. Hardwood veneer and plywood (SIC 2435): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	103.0	121.3	123.3	106.2	117.5	118.9	106.7
1973	98.0	121.8	124.3	102.6	119.8	121.9	103.3
1974	98.7	106.4	108.6	89.1	107.2	109.4	90.0
1975	77.3	83.6	83.7	82.7	86.3	86.7	83.3
1976	83.7	93.9	94.4	89.8	93.9	94.4	90.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	103.4	104.3	96.7	104.6	105.6	96.7
1979	102.2	104.5	104.6	103.3	106.1	106.4	103.3
1980	94.7	91.0	90.3	96.7	94.3	94.0	96.7
1981	94.1	93.8	92.6	103.3	94.7	93.6	103.3
1982	79.2	78.1	75.7	96.7	83.3	81.5	96.7
1983	94.6	85.9	84.6	96.7	87.1	85.8	96.7
1984	94.8	91.2	90.5	96.7	92.4	91.8	96.7
1985	99.6	84.1	83.3	90.0	85.2	84.5	90.0
1986 [1]	107.2	87.3	86.9	90.0	87.5	87.1	90.0
Average annual percent change:							
1972-86	.4	-2.1	-2.4	-.2	-1.9	-2.1	-.3
1982-86	6.8	2.0	2.6	-2.1	1.2	1.2	-2.1

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 85. Household furniture (SIC 251): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	73.1	72.0	80.5	77.3	76.8	80.7
1964	74.6	73.6	81.1	79.5	79.0	81.9
1965	77.2	75.6	88.3	82.0	80.8	88.8
1966	78.7	77.0	90.4	83.5	82.4	90.4
1967	78.9	77.2	90.3	82.3	80.9	90.3
1968	80.7	79.8	87.3	85.4	84.0	93.9
1969	81.6	80.6	87.8	85.8	84.5	93.3
1970	82.2	82.2	82.9	85.5	85.1	87.2
1971	86.5	86.3	88.3	89.9	89.8	90.8
1972	94.3	93.7	98.1	96.9	96.6	97.8
1973	97.3	94.7	117.8	99.2	96.8	116.5
1974	95.7	95.9	95.2	95.6	96.0	93.0
1975	97.5	98.4	92.6	94.9	95.5	91.1
1976	99.7	100.2	97.3	99.0	99.2	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.7	104.8	104.3	106.0	106.3	104.3
1979	101.5	102.3	96.7	102.2	103.1	97.1
1980	99.9	101.8	90.1	99.2	100.8	90.7
1981	103.0	104.8	93.4	102.5	104.1	93.7
1982	104.7	107.3	91.0	100.7	102.4	91.2
1983	110.1	111.0	105.3	109.3	110.1	105.3
1984	112.2	112.9	107.7	112.2	112.8	108.1
1985	112.5	114.0	104.5	111.7	113.0	104.8
1986	118.5	118.6	117.0	120.4	120.9	117.4
1987 [2]	115.9	115.3	119.4	119.0	119.0	119.8
Average annual percent change:						
1958-87	2.1	2.2	1.5	1.8	1.9	1.4
1982-87	2.1	1.6	4.8	3.3	3.0	4.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 86. Household furniture (SIC 251): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	63.1	86.3	87.6	78.4	81.6	82.2	78.2
1964	67.4	90.3	91.6	83.1	84.8	85.3	82.3
1965	72.7	94.2	96.2	82.3	88.7	90.0	81.9
1966	77.2	98.1	100.2	85.4	92.5	93.7	85.4
1967	73.9	93.7	95.7	81.8	89.8	91.3	81.8
1968	78.9	97.8	98.9	90.4	92.4	93.9	84.0
1969	81.4	99.8	101.0	92.7	94.9	96.3	87.2
1970	77.8	94.7	94.6	93.9	91.0	91.4	89.2
1971	83.7	96.8	97.0	94.8	93.1	93.2	92.2
1972	99.2	105.2	105.9	101.1	102.4	102.7	101.4
1973	104.7	107.6	110.6	88.9	105.5	108.2	89.9
1974	96.3	100.6	100.4	101.2	100.7	100.3	103.6
1975	81.5	83.6	82.8	88.0	85.9	85.3	89.5
1976	92.5	92.8	92.3	95.1	93.4	93.2	95.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.2	103.4	103.3	103.8	102.2	101.9	103.8
1979	104.1	102.6	101.8	107.6	101.9	101.0	107.2
1980	97.1	97.2	95.4	107.8	97.9	96.3	107.0
1981	96.7	93.9	92.3	103.5	94.3	92.9	103.2
1982	85.5	81.7	79.7	94.0	84.9	83.5	93.7
1983	93.9	85.3	84.6	89.2	85.9	85.3	89.2
1984	101.5	90.5	89.9	94.2	90.5	90.0	93.9
1985	99.9	88.8	87.6	95.6	89.4	88.4	95.3
1986	105.8	89.3	89.2	90.4	87.9	87.5	90.1
1987 [1]	109.5	94.5	95.0	91.7	92.0	92.0	91.4
Average annual percent change:							
1958-87	2.4	.3	.2	.9	.5	.4	.9
1982-87	4.6	2.4	2.9	-.2	1.3	1.6	-.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 87. Wood household furniture (SIC 2511, 2517): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	74.8	73.0	91.7	79.7	78.2	92.2
1964	76.4	74.7	90.8	82.7	81.7	91.7
1965	78.9	76.5	101.2	84.7	82.7	101.8
1966	81.0	78.6	102.4	86.9	84.9	102.4
1967	81.1	78.8	100.5	84.5	82.6	100.5
1968	83.3	81.6	96.8	88.6	86.7	104.1
1969	85.9	84.5	97.4	90.5	89.0	103.3
1970	83.5	83.0	86.6	86.6	86.1	91.2
1971	89.5	89.0	92.7	92.2	91.8	95.2
1972	98.8	98.1	104.5	101.5	101.2	104.3
1973	103.9	98.4	179.9	105.8	100.6	178.1
1974	99.8	100.3	95.6	99.2	100.0	93.3
1975	98.0	99.5	87.2	93.1	94.2	85.8
1976	101.3	102.1	94.4	99.1	99.8	94.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.8	105.7	98.1	105.9	107.0	98.0
1979	101.6	103.2	90.7	101.9	103.6	91.0
1980	97.2	99.8	80.8	94.4	96.4	81.3
1981	97.3	99.3	83.8	95.9	97.8	83.9
1982	98.2	101.0	80.3	91.6	93.4	80.6
1983	103.8	105.5	91.8	100.9	102.2	91.8
1984	105.5	106.8	96.0	103.7	104.7	96.3
1985	104.4	106.4	90.5	101.8	103.5	90.7
1986 [2]	111.9	111.7	114.3	111.8	111.6	114.4
Average annual percent change:						
1958-86	1.8	2.0	.4	1.4	1.6	.4
1982-86	2.7	2.1	7.2	4.2	3.8	7.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 88. Wood household furniture (SIC 2511, 2517): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	65.1	67.0	89.2	71.0	81.7	83.3	70.6
1964	69.5	91.0	93.1	76.5	84.0	85.1	75.8
1965	74.9	94.9	97.9	74.0	88.4	90.6	73.6
1966	80.7	99.6	102.7	78.8	92.9	95.0	78.8
1967	77.1	95.1	97.8	76.7	91.2	93.3	76.7
1968	81.2	97.5	99.5	83.9	91.6	93.7	78.0
1969	85.0	99.0	100.6	87.3	93.9	95.5	82.3
1970	75.9	90.9	91.4	87.6	87.6	88.2	83.2
1971	84.2	94.1	94.6	90.8	91.3	91.7	88.4
1972	102.1	103.3	104.1	97.7	100.6	100.9	97.9
1973	107.2	103.2	108.9	59.6	101.3	106.6	60.2
1974	100.2	100.4	99.9	104.8	101.0	100.2	107.4
1975	81.4	83.1	81.8	93.4	87.4	86.4	94.9
1976	96.8	95.6	94.8	102.5	97.7	97.0	102.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.7	104.7	103.8	111.8	103.6	102.5	111.9
1979	99.8	98.2	96.7	110.0	97.9	96.3	109.7
1980	90.6	93.2	90.8	112.1	96.0	94.0	111.4
1981	89.6	92.1	90.2	106.9	93.4	91.6	106.8
1982	80.1	81.6	79.3	99.7	87.4	85.8	99.4
1983	87.7	84.5	83.1	95.5	86.9	85.8	95.5
1984	97.4	92.3	91.2	101.5	93.9	93.0	101.1
1985	94.3	90.3	88.6	104.2	92.6	91.1	104.0
1986 [1]	99.4	88.8	89.0	87.0	88.9	89.1	86.9
Average annual percent change:							
1958-86	2.1	.3	.2	1.7	.7	.6	1.8
1982-86	5.2	2.4	3.0	-1.8	1.0	1.4	-1.8

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 89. Upholstered household furniture (SIC 2512): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	76.3	75.6	81.1	81.3	81.3	81.8
1964	78.2	77.3	83.2	82.1	81.9	84.0
1965	80.2	78.8	88.9	85.2	84.7	89.3
1966	81.9	80.5	91.1	86.2	85.6	91.4
1967	80.3	78.8	90.3	85.1	84.4	90.3
1968	80.9	79.4	90.7	86.2	84.5	97.7
1969	80.1	79.1	86.8	85.3	84.4	92.6
1970	84.4	83.5	90.1	89.5	88.7	94.8
1971	84.6	83.4	92.7	91.0	90.4	95.4
1972	89.8	88.8	95.3	94.0	93.8	95.2
1973	91.3	90.8	94.1	94.0	94.1	93.1
1974	91.9	91.1	96.0	92.8	92.7	93.6
1975	97.2	96.6	100.9	97.4	97.0	99.0
1976	98.1	97.6	101.7	98.5	98.1	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.8	108.0	113.1	111.0	110.5	113.0
1979	105.1	103.9	111.7	106.5	105.6	111.8
1980	102.3	102.7	100.5	105.8	106.7	101.1
1981	110.5	111.1	107.2	110.6	111.2	107.3
1982	115.9	116.9	110.7	113.3	113.5	111.3
1983	121.6	119.4	135.2	122.6	120.7	135.0
1984	122.7	122.7	122.7	125.3	125.7	123.3
1985	124.5	125.0	122.5	125.9	126.5	123.0
1986 [2]	127.1	127.4	125.6	132.4	133.4	126.0
Average annual percent change:						
1958-86	2.1	2.2	1.8	1.8	1.9	1.7
1982-86	2.1	2.2	1.6	3.4	3.8	1.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 90. Upholstered household furniture (SIC 2512): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	58.1	76.1	76.9	71.6	71.5	71.5	71.0
1964	62.7	80.2	81.1	75.4	76.4	76.6	74.6
1965	67.3	83.9	85.4	75.7	79.0	79.5	75.4
1966	70.8	86.4	87.9	77.7	82.1	82.7	77.5
1967	67.4	83.9	85.5	74.6	79.2	79.8	74.6
1968	72.9	90.1	91.8	80.4	84.6	86.3	74.6
1969	75.1	93.7	95.0	86.5	88.0	89.0	81.1
1970	78.9	93.5	94.5	87.6	88.2	89.0	83.2
1971	80.8	95.5	96.9	87.2	88.8	89.4	84.7
1972	97.0	108.0	109.2	101.8	103.2	103.4	101.9
1973	100.1	109.6	110.2	106.4	106.5	106.4	107.5
1974	92.2	100.3	101.2	96.0	99.4	99.5	98.5
1975	81.3	83.6	84.2	80.6	83.5	83.8	82.1
1976	87.6	89.3	89.8	86.1	88.9	89.3	86.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	111.3	102.3	103.1	98.4	100.3	100.7	98.5
1979	113.5	108.0	109.2	101.6	106.6	107.5	101.3
1980	105.7	103.3	102.9	105.2	99.9	99.1	104.5
1981	103.3	93.5	93.0	96.4	93.4	92.9	96.3
1982	89.7	77.4	76.7	81.0	79.2	79.0	80.6
1983	99.8	82.1	83.6	73.8	81.4	82.7	73.9
1984	107.6	87.7	87.7	87.7	85.9	85.6	87.3
1985	107.4	86.2	85.9	87.7	85.3	84.9	87.3
1986 [1]	115.7	91.0	90.8	92.1	87.4	86.7	91.8
Average annual percent change:							
1958-86	3.0	.8	.8	1.2	1.1	1.1	1.2
1982-86	6.0	3.8	3.7	4.4	2.5	2.1	4.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 91. Metal household furniture (SIC 2514): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	73.8	72.8	78.4	76.6	76.2	78.3
1964	74.2	73.1	80.2	77.7	77.0	81.2
1965	77.5	76.5	82.4	80.5	80.0	82.7
1966	75.8	75.3	78.2	79.9	80.3	78.0
1967	78.4	77.3	83.9	80.7	80.0	84.1
1968	81.1	81.8	78.2	84.0	83.9	84.0
1969	81.6	80.7	86.0	83.0	81.3	91.4
1970	85.6	86.5	81.5	86.6	86.7	86.0
1971	87.0	87.7	83.7	89.0	89.7	86.0
1972	94.0	93.4	97.2	93.8	93.1	97.2
1973	94.3	93.4	99.3	95.9	95.4	98.1
1974	90.1	91.2	85.6	89.2	90.5	83.6
1975	94.1	96.9	83.3	92.4	94.9	81.5
1976	96.3	97.7	90.3	96.5	98.0	90.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.7	96.8	101.4	98.7	98.2	101.4
1979	90.2	91.1	86.0	92.2	93.4	86.6
1980	93.6	93.4	94.4	92.9	92.5	95.0
1981	98.7	99.3	95.8	03.9	100.7	96.3
1982	107.5	110.9	94.1	110.5	114.4	94.7
1983	108.9	109.8	104.9	112.9	114.7	105.3
1984	121.4	120.7	124.3	123.6	123.4	124.0
1985	124.2	124.1	124.8	125.9	126.0	124.5
1986 [2]	128.8	130.6	121.0	134.3	137.4	121.3
Average annual percent change:						
1958-86	2.2	2.3	1.7	2.1	2.2	1.7
1982-86	5.1	4.6	7.0	5.1	4.7	6.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 92. Metal household furniture (SIC 2514): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	67.6	91.6	92.8	86.2	88.2	88.7	86.3
1964	72.8	98.1	99.6	90.8	93.7	94.5	89.7
1965	75.6	97.6	98.8	91.7	93.9	94.5	91.4
1966	75.3	99.3	100.0	96.3	94.3	93.8	96.6
1967	75.4	96.2	97.5	89.9	93.4	94.2	89.7
1968	81.1	100.0	99.2	103.7	96.6	96.7	96.6
1969	82.0	100.5	101.6	95.4	98.8	100.8	89.7
1970	84.5	98.7	97.7	103.7	97.6	97.5	98.3
1971	84.5	97.1	96.3	100.9	94.9	94.2	98.3
1972	97.2	103.4	104.1	100.0	103.6	104.4	100.0
1973	106.6	113.0	114.1	107.4	111.1	111.7	108.7
1974	95.1	105.5	104.3	111.1	106.6	105.1	113.8
1975	78.7	83.6	81.2	94.5	85.2	82.9	96.6
1976	88.7	92.1	90.8	98.2	91.9	90.5	98.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	103.8	104.7	100.0	102.7	103.3	100.0
1979	95.5	105.9	104.8	111.0	103.6	102.2	110.3
1980	88.4	94.4	94.6	93.6	95.2	95.6	93.1
1981	89.7	90.9	90.3	93.6	89.8	89.1	93.1
1982	89.8	83.5	81.0	95.4	81.3	78.5	94.8
1983	96.2	88.3	87.6	91.7	85.2	83.9	91.4
1984	102.7	84.6	85.1	82.6	83.1	83.2	82.8
1985	103.1	83.0	83.1	82.6	81.9	81.8	82.8
1986 [1]	108.8	84.5	83.3	89.9	81.0	79.2	89.7
Average annual percent change:							
1958-86	1.8	-.4	-.5	.1	-.3	-.4	.2
1982-86	4.6	-.4	(2)	-2.2	-.5	-.1	-2.1

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 93. Mattresses and bedsprings (SIC 2515): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	57.5	56.9	59.4	59.4	59.4	59.8
1964	59.1	58.8	59.8	61.0	61.2	60.2
1965	61.3	60.2	65.2	63.4	62.7	65.6
1966	62.4	60.6	69.1	64.2	62.8	69.1
1967	64.1	62.2	71.0	65.5	63.9	71.2
1968	66.8	65.9	69.6	70.1	68.7	75.2
1969	64.9	63.7	68.8	68.2	66.9	73.4
1970	67.7	67.2	69.0	70.5	69.9	72.4
1971	75.4	74.3	78.9	77.2	76.0	81.2
1972	83.5	82.3	87.6	84.8	83.9	87.6
1973	88.4	86.1	96.8	88.7	86.7	95.5
1974	94.3	92.4	100.8	93.2	91.5	99.0
1975	98.9	94.9	104.2	95.7	93.6	103.0
1976	99.2	98.3	101.9	99.5	99.0	101.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.5	100.2	106.1	101.0	99.4	106.6
1979	102.8	103.8	99.6	104.2	105.6	100.3
1980	112.1	114.8	104.1	111.2	113.4	104.7
1981	114.0	117.1	105.4	113.9	116.6	106.1
1982	104.3	107.1	96.2	103.1	105.2	97.0
1983	108.6	110.0	104.4	110.1	112.0	104.4
1984	109.5	109.5	109.7	109.9	109.6	110.4
1985	108.8	109.8	105.9	110.0	111.0	106.7
1986	117.9	117.8	118.3	119.5	119.6	118.9
1987 [2]	128.3	129.4	124.6	130.2	131.8	125.4
Average annual percent change:						
1958-87	3.4	3.5	3.0	3.3	3.3	3.0
1982-87	3.7	3.4	4.8	4.1	3.9	4.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the International Sleep Products Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 94. Mattresses and bedsprings (SIC 2515): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	66.3	115.3	116.5	111.6	111.6	111.7	110.9
1964	68.7	116.3	116.8	114.9	112.6	112.2	114.1
1965	74.9	122.2	124.5	114.9	118.2	119.4	114.1
1966	76.6	122.8	126.5	110.8	119.3	121.9	110.9
1967	75.7	118.1	121.7	106.6	115.6	118.5	106.3
1968	83.4	124.9	126.5	119.9	119.0	121.4	110.9
1969	83.7	128.9	131.3	121.6	122.7	125.2	114.1
1970	81.5	120.4	121.2	118.2	115.6	116.6	112.5
1971	92.7	122.9	124.7	117.5	120.0	121.9	114.1
1972	98.6	118.1	119.8	112.5	116.3	117.5	112.5
1973	110.4	124.9	128.2	114.1	124.5	127.3	115.6
1974	97.4	103.3	105.4	96.6	104.5	106.4	98.4
1975	88.6	91.4	93.4	85.0	92.6	94.7	86.0
1976	95.1	95.9	96.7	93.3	95.6	96.1	93.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.9	98.4	99.7	94.2	98.9	100.5	93.7
1979	111.2	108.2	107.1	111.7	106.7	105.3	110.9
1980	114.5	102.1	99.7	110.0	103.0	101.0	109.4
1981	119.4	104.7	102.0	113.3	104.8	102.4	112.5
1982	97.0	93.0	90.6	100.8	94.1	92.2	100.0
1983	104.4	96.1	94.9	100.0	94.6	93.2	100.0
1984	107.0	97.7	97.7	97.5	97.4	97.6	96.9
1985	106.7	98.1	97.2	100.8	97.0	96.1	100.0
1986	113.3	96.1	96.2	95.8	94.8	94.7	95.3
1987 [1]	121.5	94.7	93.9	97.5	93.3	92.2	96.9
Average annual percent change:							
1958-87	2.4	-1.0	-1.1	-.6	-.9	-.9	-.6
1982-87	4.0	.3	.6	-.7	-.1	.1	-.8

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the International Sleep Products Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 95. Office furniture (SIC 252): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	75.9	72.7	90.3	77.7	74.8	90.3
1964	82.1	80.0	90.9	84.7	82.9	91.4
1965	84.2	81.1	98.1	88.6	86.2	98.1
1966	86.7	83.0	103.5	90.9	88.0	103.3
1967	86.5	84.2	96.0	89.1	87.3	95.9
1968	85.2	84.8	86.8	90.1	89.2	93.5
1969	88.0	89.2	84.1	91.6	92.2	89.5
1970	78.2	79.4	74.0	81.7	82.9	77.8
1971	83.9	86.6	75.2	86.5	89.5	77.3
1972	91.8	91.7	92.1	94.7	95.5	92.0
1973	90.6	89.9	93.0	92.7	92.8	92.2
1974	83.1	80.7	93.5	83.8	82.0	91.2
1975	85.5	87.4	78.8	83.4	85.1	77.6
1976	89.7	91.2	84.4	88.6	89.9	84.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.0	99.5	102.0	100.2	99.7	101.8
1979	107.2	106.5	109.8	109.1	108.9	109.9
1980	112.1	117.8	94.9	109.5	114.0	95.7
1981	108.8	112.4	97.4	109.5	113.3	97.8
1982	107.4	112.5	91.8	106.1	110.9	92.2
1983	112.0	116.9	97.1	109.8	114.0	97.1
1984	117.6	121.6	105.7	119.6	124.1	105.9
1985	116.7	123.2	97.7	117.3	124.3	98.0
1986	117.8	124.5	98.3	117.0	123.5	98.5
1987 [2]	122.6	131.7	97.8	121.8	130.8	98.1
Average annual percent change:						
1958-87	2.0	2.3	.6	1.8	2.2	.6
1982-87	2.3	2.9	.8	2.5	3.1	.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Business and Institutional Furniture Manfacturers Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 96. Office furniture (SIC 252): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	45.6	60.1	62.7	50.5	58.7	61.0	50.5
1964	50.8	61.9	63.5	55.9	60.0	61.3	55.6
1965	57.5	68.3	70.9	58.6	64.9	66.7	58.6
1966	67.9	78.3	81.8	65.6	74.7	77.2	65.7
1967	69.7	80.6	82.8	72.6	78.2	79.8	72.7
1968	70.9	83.2	83.6	81.7	78.7	79.5	75.8
1969	81.4	92.5	91.3	96.8	88.9	88.3	90.9
1970	67.6	86.4	85.1	91.4	82.7	81.5	86.9
1971	64.8	77.2	74.8	86.0	74.9	72.4	83.9
1972	82.7	90.1	90.2	89.8	87.3	86.6	89.9
1973	87.5	96.6	97.3	94.1	94.4	94.3	94.9
1974	82.9	99.6	102.7	88.7	96.9	101.1	90.9
1975	68.2	79.8	78.0	96.6	81.8	80.1	87.9
1976	75.8	84.5	83.1	89.8	85.6	84.3	89.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.0	108.0	108.5	105.9	107.8	108.3	106.1
1979	121.0	112.9	113.6	110.2	110.9	111.1	110.1
1980	129.6	115.6	110.0	136.6	118.4	113.7	135.4
1981	131.4	120.8	116.9	134.9	120.0	116.0	134.3
1982	138.7	129.2	123.3	151.1	130.7	125.1	150.5
1983	146.1	130.4	125.0	150.5	133.1	128.2	150.5
1984	173.3	147.1	142.5	164.0	144.9	139.6	163.6
1985	178.1	152.6	144.6	182.3	151.8	143.3	181.8
1986	178.1	151.2	143.1	181.2	152.2	144.2	180.8
1987 [1]	189.2	154.3	143.7	193.5	155.3	144.7	192.9
Average annual percent change:							
1958-87	5.9	3.8	3.5	5.2	4.0	3.6	5.3
1982-87	6.4	4.0	3.4	5.6	3.8	3.2	5.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Business and Institutional Furniture Manfacturers Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 97. Wood office furniture (SIC 2521): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	80.4	74.5	121.9	85.0	78.8	122.8
1964	84.5	79.2	116.7	88.3	83.1	118.6
1965	82.8	78.8	105.7	86.4	82.3	108.0
1966	85.9	81.5	112.5	88.3	83.5	114.9
1967	88.1	83.2	116.8	91.2	86.6	115.0
1968	87.7	83.3	113.9	95.0	90.1	121.4
1969	91.9	88.8	108.4	97.3	93.7	115.6
1970	83.9	79.6	109.6	85.3	79.9	116.9
1971	81.2	78.3	96.9	80.1	76.5	99.5
1972	84.5	81.1	102.6	85.8	82.3	103.9
1973	78.5	74.9	98.5	78.5	74.9	97.3
1974	83.0	78.4	109.7	80.8	76.0	108.3
1975	80.5	78.3	91.6	73.7	70.4	89.9
1976	81.9	79.2	96.0	78.0	74.6	95.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	103.3	91.0	98.4	100.7	90.7
1979	110.8	114.0	98.7	111.4	114.8	99.5
1980	109.2	117.5	84.1	100.6	105.4	85.1
1981	99.5	103.0	86.8	99.5	103.1	87.3
1982	90.3	92.0	83.5	88.0	89.1	84.0
1983	93.9	94.4	91.6	92.8	93.1	92.0
1984	96.0	97.2	91.2	96.1	97.3	91.7
1985	96.2	98.6	87.6	96.6	99.0	88.0
1986 [2]	93.4	94.4	89.5	90.5	90.7	89.8
Average annual percent change:						
1958-86	1.3	1.7	-.8	.9	1.3	-.9
1982-86	.9	1.0	.9	1.0	1.0	.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 98. Wood office furniture (SIC 2521): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	31.5	42.9	46.3	28.3	40.6	43.8	28.1
1964	37.0	43.8	46.7	31.7	41.9	44.5	31.2
1965	40.5	48.9	51.4	38.3	46.9	49.2	37.5
1966	43.1	50.2	52.9	38.3	48.8	51.6	37.5
1967	46.7	53.0	56.1	40.0	51.2	53.9	40.6
1968	49.3	56.2	59.2	43.3	51.9	54.7	40.6
1969	57.8	ω2.9	65.1	53.3	59.4	61.7	50.0
1970	51.2	61.0	64.3	46.7	60.0	64.1	43.8
1971	43.6	53.7	55.7	45.0	54.4	57.0	43.8
1972	61.7	73.0	76.1	60.0	71.9	75.0	59.4
1973	60.8	77.5	81.2	61.7	77.5	81.2	62.5
1974	67.7	81.6	86.3	61.7	83.8	89.1	62.5
1975	53.4	66.3	68.2	58.3	72.5	75.8	59.4
1976	62.4	76.2	78.8	65.0	80.0	83.6	65.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.7	107.0	104.3	116.3	109.4	107.0	118.7
1979	139.9	126.3	122.7	141.7	125.6	121.9	140.6
1980	127.6	116.8	108.6	151.7	126.9	121.1	150.0
1981	120.0	120.6	116.5	136.3	120.6	116.4	137.5
1982	115.5	127.9	125.5	136.3	131.3	129.7	137.5
1983	120.7	128.6	127.8	131.7	130.0	129.7	131.2
1984	149.0	155.2	153.3	163.3	155.0	153.1	162.5
1985	143.0	148.6	145.1	163.3	148.1	144.5	162.5
1986 [1]	140.3	150.2	148.6	156.7	155.0	154.7	156.2
Average annual percent change:							
1958-86	7.0	5.6	5.2	7.9	6.0	5.6	7.9
1982-86	5.7	4.8	4.8	4.8	4.7	4.7	4.8

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 99. Metal office furniture (SIC 2522): Indexes of output per employee hour and output per employee, 1963–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	75.9	73.4	86.7	77.3	74.8	86.6
1964	82.9	81.5	88.6	85.4	84.3	89.0
1965	86.3	83.2	99.3	91.6	89.3	99.7
1966	88.3	84.5	104.9	93.6	90.6	105.3
1967	87.6	85.6	95.6	90.4	89.0	95.6
1968	86.2	86.4	85.3	90.6	90.3	91.5
1969	88.5	90.5	82.2	91.8	93.2	87.5
1970	78.0	80.8	69.7	82.5	85.8	73.0
1971	86.4	90.8	74.0	90.6	96.2	75.8
1972	96.7	97.9	92.6	100.4	103.2	92.2
1973	97.9	98.2	96.4	101.0	102.9	94.9
1974	84.5	82.7	91.4	86.7	85.9	88.9
1975	88.9	92.8	77.7	89.4	94.2	76.6
1976	94.8	96.6	83.7	95.3	99.5	83.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.8	97.6	108.3	101.3	99.4	108.3
1979	104.5	101.8	114.9	107.3	105.1	115.5
1980	113.9	118.1	101.2	115.0	119.7	101.9
1981	114.0	117.5	103.3	115.0	119.0	103.7
1982	116.6	124.2	96.4	116.3	123.8	96.7
1983	122.1	130.1	100.6	119.1	126.0	100.5
1984	130.5	136.5	113.1	133.5	141.0	113.2
1985	128.2	137.6	103.8	129.1	139.2	103.9
1986 [2]	131.9	143.1	103.8	132.8	145.0	104.0
Average annual percent change:						
1958-86	2.2	2.6	.9	2.1	2.5	.9
1982-86	3.0	3.5	1.8	3.5	4.2	1.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 100. Metal office furniture (SIC 2522): Indexes of output, employee hours, and employees, 1963–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	53.0	69.8	72.2	61.1	68.6	70.9	61.2
1964	59.8	72.1	73.4	67.5	70.0	70.9	67.2
1965	68.5	79.4	82.3	69.0	74.8	76.7	68.7
1966	83.3	94.3	98.6	79.4	89.0	91.9	79.1
1967	84.2	96.1	98.4	88.1	93.1	94.6	88.1
1968	84.6	98.2	97.9	99.2	93.4	93.7	92.5
1969	96.6	109.1	106.7	117.5	105.2	103.6	110.4
1970	78.5	100.7	97.2	112.7	95.2	91.5	107.5
1971	78.1	90.4	86.0	105.6	86.2	81.2	103.0
1972	96.3	99.6	98.4	104.0	95.9	93.3	104.5
1973	104.8	107.1	106.7	108.7	103.8	101.8	110.4
1974	92.9	110.0	112.4	101.5	107.2	108.1	104.5
1975	77.7	87.4	83.7	100.0	86.9	82.5	101.5
1976	84.4	89.0	85.6	100.8	88.6	84.8	101.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	108.5	111.0	100.0	106.9	109.0	100.0
1979	110.3	105.5	108.3	96.0	102.8	104.9	95.5
1980	130.9	114.9	110.8	129.4	113.8	109.4	128.4
1981	137.7	120.8	117.2	133.3	119.7	115.7	132.8
1982	151.5	129.9	122.0	157.1	130.3	122.4	156.7
1983	160.5	131.5	123.4	159.5	134.8	127.4	159.7
1984	185.9	142.5	136.2	164.3	139.3	131.8	164.2
1985	198.5	154.8	144.3	191.3	153.8	142.6	191.0
1986 [1]	200.2	151.8	139.9	192.9	150.7	138.1	192.5
Average annual percent change:							
1958-86	5.3	3.0	2.7	4.3	3.1	2.7	4.3
1982-86	8.0	4.9	4.4	6.1	4.3	3.6	6.1

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 101. Paper, paperboard, and pulp mills (SIC 2611, 2621, 2631, 2661): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	59.3	57.4	66.7	62.0	60.0	70.6
1964	62.3	60.3	73.1	65.8	63.6	75.5
1965	65.4	63.7	74.6	68.8	66.9	76.7
1966	68.7	66.9	78.1	72.8	70.9	79.9
1967	67.6	66.1	75.0	70.7	69.3	76.7
1968	71.9	69.9	82.3	75.8	73.7	84.0
1969	74.8	72.5	86.0	78.7	76.6	86.5
1970	77.5	75.8	85.7	79.5	78.0	85.1
1971	81.0	80.1	85.1	83.6	82.8	86.3
1972	87.9	86.7	93.1	91.6	90.5	96.0
1973	91.5	90.2	98.3	94.9	93.2	101.6
1974	91.5	90.5	95.2	93.6	92.4	98.2
1975	86.7	87.7	82.3	85.9	86.1	84.3
1976	95.0	95.0	95.1	95.9	95.6	96.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.2	103.7	101.1	103.5	104.3	101.1
1979	105.4	106.2	102.0	105.6	106.5	102.4
1980	105.2	106.4	100.5	105.7	106.9	101.3
1981	104.4	105.5	100.0	104.0	104.9	100.4
1982	111.3	113.7	102.5	109.6	111.6	102.9
1983	113.5	121.3	112.1	119.0	121.1	112.1
1984	121.0	123.1	113.2	121.9	124.3	113.6
1985	123.1	126.3	111.0	122.5	125.8	111.5
1986	133.5	135.8	124.0	135.0	138.1	124.5
1987 [2]	141.8	144.9	129.6	144.1	148.3	130.2
Average annual percent change:						
1947-87	3.7	4.0	2.2	3.5	3.8	2.1
1982-87	4.6	4.6	4.2	5.1	5.4	4.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the American Paper Institute. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 102. Paper, paperboard, and pulp mills (SIC 2611, 2621, 2631, 2661): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	62.7	105.8	109.2	91.3	101.1	104.5	88.8
1964	66.7	107.0	110.6	91.3	101.3	104.8	88.4
1965	70.6	107.9	110.9	94.7	102.6	105.6	92.1
1966	76.1	110.8	113.8	97.5	104.6	107.3	95.3
1967	75.9	112.2	114.6	101.2	107.3	109.6	98.9
1968	81.6	113.5	116.8	99.2	107.7	110.7	97.1
1969	85.9	114.9	118.5	99.9	109.2	112.1	99.3
1970	85.1	109.8	112.2	99.3	107.1	109.1	100.0
1971	88.0	106.2	107.3	101.0	102.9	103.9	99.6
1972	92.8	105.6	107.0	99.7	101.3	102.5	96.7
1973	97.1	106.1	107.7	98.8	102.3	104.2	95.6
1974	96.7	105.7	106.8	101.6	103.3	104.7	98.5
1975	82.1	94.7	93.6	99.7	95.6	95.3	97.4
1976	95.6	100.6	100.6	100.5	99.7	100.0	98.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.4	99.2	98.7	101.3	98.9	98.2	101.3
1979	106.0	100.6	99.8	103.9	100.4	99.5	103.5
1980	105.3	100.1	99.0	104.8	99.6	98.5	103.9
1981	102.4	98.1	97.1	102.4	98.5	97.6	102.0
1982	103.1	92.6	90.7	100.6	94.1	92.4	100.2
1983	110.9	92.8	91.4	98.9	93.2	91.6	98.9
1984	115.1	95.1	93.5	101.7	94.4	92.6	101.3
1985	115.6	93.9	91.5	104.1	94.4	91.9	103.7
1986	122.4	91.7	90.1	98.7	90.7	88.6	98.3
1987 [1]	129.0	91.0	89.0	99.5	89.5	87.0	97.1
Average annual percent change:							
1947-87	3.5	-.2	-.5	1.3	(2)	-.3	1.4
1982-87	4.1	-.4	-.5	-.1	-.9	-1.2	-.1

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, and the American Paper Institute. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 103. Paper and plastic bags (SIC 2643): Indexes of output per employee hour and output per employee, 1963–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	69.7	68.8	73.6	70.5	69.3	75.8
1964	69.3	68.7	71.7	71.2	70.5	74.2
1965	72.7	72.6	73.1	74.4	74.1	75.4
1966	72.4	71.9	74.6	75.0	74.7	76.3
1967	75.6	75.2	77.2	77.1	76.7	78.9
1968	79.7	78.9	83.2	83.1	82.6	85.2
1969	78.1	78.2	78.0	80.4	80.8	78.6
1970	75.8	74.4	82.2	76.5	75.2	81.9
1971	86.2	85.1	91.3	86.9	85.5	92.6
1972	88.9	86.7	89.4	90.5	90.0	92.1
1973	94.1	94.3	92.7	95.3	95.1	95.8
1974	98.6	96.5	108.3	99.4	96.6	112.0
1975	99.9	100.4	97.4	94.5	93.3	99.7
1976	100.5	100.1	102.1	98.6	97.3	103.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.1	99.6	102.0	101.5	101.3	102.1
1979	98.0	98.0	97.7	97.3	97.1	98.3
1980	94.6	95.0	93.1	94.5	94.6	94.2
1981	92.3	92.8	90.4	93.4	94.0	91.1
1982	95.3	95.9	93.1	94.3	94.6	93.5
1983	102.9	103.2	101.8	103.5	104.0	101.7
1984	105.6	106.4	102.9	106.1	106.6	103.8
1985	107.1	106.7	108.2	108.2	108.1	108.7
1986 [2]	112.3	112.7	110.0	115.7	117.1	110.7
Average annual percent change:						
1954-86	2.3	2.4	1.8	2.3	2.4	1.7
1982-86	3.8	3.6	4.0	4.6	4.8	4.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 104. Paper and plastic bags (SIC 2643): Indexes of output, employee hours, and employees, 1963–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	61.3	88.0	89.1	83.3	86.9	88.4	90.9
1964	63.7	91.9	92.7	88.9	89.5	90.4	85.9
1965	67.0	92.1	92.3	91.6	90.1	90.4	88.9
1966	72.5	100.1	100.8	97.2	96.7	97.1	95.0
1967	73.3	97.0	97.5	95.0	95.1	95.6	92.9
1968	80.9	101.5	102.5	97.2	97.3	97.9	95.0
1969	81.8	104.7	104.6	104.9	101.8	101.2	104.1
1970	83.5	110.2	112.2	101.6	109.2	111.1	102.0
1971	89.7	104.0	105.4	98.3	103.2	104.9	96.9
1972	90.3	101.6	101.8	101.0	99.8	100.3	98.0
1973	96.8	102.9	102.6	104.4	101.6	101.8	101.0
1974	105.3	106.8	109.1	97.2	105.9	109.0	94.0
1975	94.7	94.9	94.3	97.2	100.2	101.5	95.0
1976	102.6	102.1	102.5	100.5	104.1	105.4	99.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.1	103.0	103.5	101.1	101.6	101.8	101.0
1979	105.3	107.5	107.5	107.8	108.2	108.5	107.1
1980	106.5	112.6	112.1	114.4	112.7	112.6	113.1
1981	104.9	113.6	113.0	116.1	112.3	111.6	115.2
1982	97.2	102.0	101.4	104.4	103.1	102.8	104.0
1983	106.9	103.9	103.6	105.0	103.3	102.8	105.1
1984	106.9	101.2	100.5	103.9	100.8	100.3	103.0
1985	107.6	100.5	100.8	99.4	99.4	99.5	99.0
1986 [1]	118.6	105.6	105.2	107.8	102.5	101.3	107.1
Average annual percent change:							
1954-86	3.5	1.2	1.1	1.6	1.2	1.1	1.7
1982-86	4.1	.4	.5	1	-.5	-.6	[2]

[1] Preliminary.

[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 105. Folding paperboard boxes (SIC 2651): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	75.8	75.2	79.2	78.0	77.2	81.3
1964	77.5	76.8	81.3	80.6	79.8	84.2
1965	73.5	72.9	76.5	76.5	76.0	78.6
1966	74.0	73.4	77.1	76.9	76.2	79.1
1967	81.0	80.9	81.9	83.9	83.8	84.0
1968	85.8	84.8	91.3	88.6	87.5	93.1
1969	83.4	82.3	89.6	85.5	84.3	90.1
1970	77.4	77.1	78.8	77.6	77.5	78.5
1971	84.5	84.9	83.2	85.0	85.0	84.4
1972	91.6	91.6	92.5	92.5	91.6	95.3
1973	92.8	92.6	94.0	93.5	92.6	96.8
1974	98.4	99.4	94.7	98.8	99.0	97.5
1975	98.5	100.6	90.3	99.5	101.4	92.5
1976	102.8	103.7	99.7	105.1	106.0	101.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.6	105.0	103.2	104.9	105.2	103.5
1979	104.6	104.3	106.3	106.2	106.1	106.9
1980	101.6	102.1	99.7	102.2	102.6	100.6
1981	104.5	104.3	105.7	106.1	105.9	106.3
1982	104.2	105.5	98.6	104.3	105.9	98.9
1983	104.5	105.5	100.3	105.2	106.6	100.3
1984	102.4	103.6	97.5	104.7	106.5	98.1
1985	99.6	100.0	97.6	100.9	101.7	98.2
1986	101.4	101.3	101.8	104.9	105.5	102.6
1987 [2]	98.1	98.5	96.4	101.7	102.9	97.0
Average annual percent change:						
1963-87	1.5	1.6	1.2	1.4	1.6	1.1
1982-87	-1.2	-1.4	-.2	-.5	-.6	-.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Paperboard Packaging Council, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 106. Folding paperboard boxes (SIC 2651): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	89.5	118.0	119.0	113.0	114.8	116.0	110.1
1964	89.8	115.9	116.9	110.5	111.4	112.6	106.7
1965	88.3	120.2	121.1	115.5	115.4	116.2	112.3
1966	93.3	126.1	127.1	121.0	121.4	122.4	118.0
1967	92.5	114.2	114.3	113.0	110.3	110.4	110.1
1968	96.3	112.2	113.6	105.5	108.7	110.0	103.4
1969	102.3	122.6	124.3	114.2	119.6	121.3	113.5
1970	84.7	109.5	109.8	107.5	108.9	109.3	107.9
1971	85.3	100.9	100.5	102.5	100.4	100.3	101.1
1972	94.3	102.9	103.0	101.9	102.0	102.9	98.9
1973	94.7	102.1	102.3	100.7	101.3	102.3	97.8
1974	95.4	97.0	96.0	100.7	96.6	96.4	97.8
1975	85.3	86.6	84.8	94.5	85.7	84.1	92.2
1976	95.4	92.8	92.0	95.7	90.8	90.0	94.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.0	102.3	101.9	103.7	102.0	101.7	103.4
1979	108.9	102.2	102.5	100.6	100.7	100.8	100.0
1980	104.0	102.4	101.9	104.3	101.8	101.4	103.4
1981	105.1	100.6	100.8	99.4	99.1	99.2	98.9
1982	101.1	97.0	95.8	102.5	96.9	95.5	102.2
1983	100.3	96.0	95.1	100.0	95.3	94.1	100.0
1984	105.9	103.4	102.2	108.6	101.1	99.4	107.9
1985	98.2	98.6	98.2	100.6	97.3	96.6	100.0
1986	103.7	102.3	102.4	101.9	98.9	98.3	101.1
1987 [1]	104.7	106.7	106.3	108.6	102.9	101.7	107.9
Average annual percent change:							
1963-87	.7	-.8	-.9	-.5	-.7	-.8	-.4
1982-87	.6	1.8	2.0	.8	1.1	1.2	.7

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Paperboard Packaging Council, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 107. Corrugated and solid fiber boxes (SIC 2653): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	57.7	55.2	66.5	60.7	58.3	68.2
1964	58.9	56.4	67.5	63.3	61.2	69.6
1965	60.7	58.2	69.6	65.5	63.5	71.5
1966	63.2	59.6	76.8	67.4	64.0	78.6
1967	65.5	62.8	74.3	68.3	65.9	76.0
1968	67.9	64.7	78.6	71.3	68.4	80.2
1969	69.3	66.3	79.9	72.5	70.0	80.4
1970	73.1	70.8	80.4	73.4	71.3	79.6
1971	77.5	75.9	82.2	78.3	76.5	83.4
1972	79.6	77.3	87.2	82.3	79.8	89.7
1973	86.1	83.1	95.6	88.6	85.2	99.1
1974	92.0	91.8	92.3	89.7	87.8	95.1
1975	96.2	98.3	90.2	94.6	95.5	92.1
1976	101.5	101.5	101.5	101.0	100.2	103.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.4	103.0	104.7	103.0	102.3	104.7
1979	106.9	106.4	107.8	106.8	106.2	108.3
1980	111.0	113.1	105.2	109.8	111.4	105.9
1981	109.8	111.2	106.0	110.1	111.6	106.3
1982	111.9	114.2	105.5	110.5	112.4	106.1
1983	114.0	115.4	110.1	115.3	117.5	110.1
1984	118.9	118.7	119.8	120.7	120.9	120.1
1985	122.5	122.2	123.5	123.0	122.8	124.0
1986	126.7	126.0	128.7	128.9	128.7	129.1
1987 [2]	128.9	127.7	132.3	130.8	130.2	132.8
Average annual percent change:						
1958-87	3.6	3.9	2.8	3.4	3.6	2.7
1982-87	3.1	2.5	4.8	3.5	3.0	4.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Fiber Box Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 108. Corrugated and solid fiber boxes (SIC 2653): Indexes of output, employee hours, and employment, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	49.8	86.3	90.2	74.9	82.1	85.4	73.0
1964	53.9	91.5	95.5	79.8	85.2	88.0	77.4
1965	58.5	96.3	100.5	84.1	89.3	92.1	81.8
1966	63.8	100.9	107.1	83.1	94.7	99.7	81.2
1967	65.4	99.9	104.1	88.0	95.7	99.3	86.1
1968	70.7	104.2	109.2	90.0	99.2	103.4	88.2
1969	75.5	108.9	113.9	94.5	104.1	107.8	93.9
1970	75.8	103.7	107.0	94.3	103.2	106.3	95.0
1971	79.2	102.2	104.4	96.3	101.2	103.5	95.0
1972	87.5	109.9	113.2	100.4	106.3	109.6	97.5
1973	95.8	111.3	115.3	100.2	108.1	112.4	96.7
1974	91.0	98.9	99.1	98.6	101.5	103.7	95.7
1975	83.3	86.6	84.7	92.3	88.1	87.2	90.4
1976	94.4	93.0	93.0	93.0	93.5	94.2	91.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.3	103.8	104.2	102.5	104.2	104.9	102.5
1979	109.1	102.1	102.5	101.2	102.2	102.7	100.7
1980	105.2	94.8	93.0	100.0	95.8	94.4	99.3
1981	105.6	96.2	95.0	99.6	95.9	94.6	99.3
1982	102.7	91.8	89.9	97.3	92.9	91.4	96.8
1983	110.1	96.6	95.4	100.0	95.5	93.7	100.0
1984	117.6	98.9	99.1	98.2	97.4	97.3	97.9
1985	118.7	96.9	97.1	96.1	96.5	96.7	95.7
1986	125.9	99.4	99.9	97.8	97.7	97.8	97.5
1987 [1]	132.8	103.0	104.0	100.4	101.5	102.0	100.0
Average annual percent change:							
1958-87	4.2	.6	.3	1.4	.8	.6	1.5
1982-87	5.0	1.8	2.4	.2	1.4	1.9	.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Fiber Box Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 109. Industrial inorganic chemicals (SIC 281): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	97.3	94.7	103.5	98.5	93.1	103.5
1973	102.1	97.3	113.8	102.8	97.1	115.6
1974	104.1	101.2	110.7	104.7	100.5	113.6
1975	86.5	88.3	82.8	85.7	86.5	84.3
1976	94.4	96.9	89.7	94.2	96.0	91.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.6	102.9	101.9	102.8	103.2	101.9
1979	112.2	112.3	112.1	113.3	113.7	112.6
1980	94.3	98.0	87.4	93.2	96.3	88.0
1981	91.4	96.0	82.8	91.1	95.9	83.3
1982	86.3	91.8	76.6	85.0	90.1	76.9
1983	94.0	100.8	82.3	92.1	98.3	82.3
1984	104.5	111.9	91.8	103.9	111.5	92.0
1985	101.4	109.7	87.1	101.3	110.4	87.5
1986 [2]	105.4	116.8	87.3	105.2	117.8	87.6
Average annual percent change:						
1972-86	.1	1.1	-1.7	.1	1.1	-1.8
1982-86	4.9	5.8	3.2	5.4	6.7	3.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 110. Industrial inorganic chemicals (SIC 281): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	90.6	93.1	95.7	87.5	93.9	97.3	87.5
1973	96.5	94.5	99.2	84.8	93.9	99.4	83.5
1974	105.1	101.0	103.9	94.9	100.4	104.6	92.5
1975	87.0	100.6	98.5	105.1	101.5	100.6	103.2
1976	95.0	100.6	98.0	105.9	100.9	99.0	104.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.6	102.9	102.6	103.6	102.7	102.3	103.6
1979	108.5	96.7	96.6	96.8	95.8	95.4	96.4
1980	95.9	101.7	97.9	109.7	102.9	99.6	109.0
1981	93.7	102.5	97.6	113.1	102.9	97.7	112.5
1982	82.7	95.8	90.1	107.9	97.3	91.8	107.5
1983	87.6	93.2	86.9	106.5	95.1	89.1	106.5
1984	97.0	92.8	86.7	105.7	93.4	87.0	105.4
1985	96.3	95.0	87.8	110.5	95.1	87.2	110.0
1986 [1]	94.5	89.7	80.9	108.3	89.8	80.2	107.9
Average annual percent change:							
1972-86	-.3	-.4	-1.3	1.5	-.3	-1.4	1.5
1982-86	3.7	-1.1	-2.0	.4	-1.6	-2.9	.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 111. Alkalies and chlorine (SIC 2812): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	102.1	98.7	117.6	101.3	95.2	117.2
1973	102.0	95.4	121.5	103.2	96.0	122.8
1974	113.3	107.4	129.8	115.1	108.0	133.6
1975	90.0	87.8	95.4	91.4	89.1	96.5
1976	98.0	100.2	93.2	99.5	101.9	94.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.6	105.7	108.5	106.3	108.7	107.6
1979	107.9	109.3	104.8	107.4	109.3	103.8
1980	115.4	119.9	105.8	107.7	108.0	106.8
1981	95.3	97.9	89.9	96.2	100.0	89.5
1982	100.8	104.2	93.7	99.1	102.1	93.3
1983	127.7	130.2	122.2	128.8	132.8	121.1
1984	146.1	142.6	155.0	150.6	148.2	156.0
1985	148.3	147.0	151.1	148.1	147.0	150.4
1986 [2]	197.5	199.3	193.4	197.5	199.3	193.8
Average annual percent change:						
1972-86	3.5	4.0	2.3	3.4	4.0	2.2
1982-86	18.1	15.2	18.1	16.4	15.5	18.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 112. Alkalies and chlorine (SIC 2812): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	114.2	111.8	118.1	97.1	112.7	120.0	97.4
1973	116.3	114.0	121.9	95.7	112.7	121.2	94.7
1974	133.6	117.9	124.4	102.9	116.1	123.7	100.0
1975	109.2	121.4	124.4	114.5	119.5	122.5	113.2
1976	112.1	114.4	111.9	120.3	112.7	110.0	118.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.1	93.0	93.8	91.3	91.5	91.2	92.1
1979	68.3	63.3	62.5	65.2	63.6	62.5	65.8
1980	67.5	58.5	56.3	63.8	62.7	62.5	63.2
1981	61.2	64.2	62.5	68.1	63.6	61.2	68.4
1982	63.8	63.3	61.2	68.1	64.4	62.5	68.4
1983	79.7	62.4	61.2	65.2	61.9	60.0	65.8
1984	94.4	84.6	66.2	60.9	62.7	63.7	60.5
1985	102.9	69.4	70.0	68.1	69.5	70.0	68.4
1986 [1]	112.2	56.8	56.3	58.0	56.8	56.3	57.9
Average annual percent change:							
1972-86	-2.4	-5.7	-6.1	-4.7	-5.7	-6.1	-4.6
1982-86	14.8	-1.1	-.3	-2.7	-1.3	-.5	-2.9

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 113. Inorganic pigments (SIC 2816): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	113.2	108.7	124.8	112.7	107.8	124.5
1973	114.6	106.0	140.4	117.8	108.8	141.5
1974	115.4	110.3	129.2	118.0	112.5	131.2
1975	104.2	105.5	101.6	104.3	104.8	103.4
1976	100.9	102.2	98.0	100.6	101.5	98.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.8	104.1	106.6	104.8	104.0	106.6
1979	105.0	104.4	106.5	105.8	105.8	105.9
1980	102.2	108.6	89.9	101.3	108.0	89.8
1981	105.1	113.0	90.4	102.7	110.2	90.3
1982	96.7	108.0	77.7	93.1	103.1	77.7
1983	107.4	117.5	89.7	105.7	116.4	89.1
1984	128.0	137.3	110.7	124.9	132.9	111.1
1985	132.7	144.3	111.9	129.6	140.8	111.3
1986 [2]	138.8	150.9	117.4	138.3	151.1	117.9
Average annual percent change:						
1972-86	1.0	2.2	-1.5	.8	2.0	-1.5
1982-86	9.8	9.1	11.0	10.5	10.0	11.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 114. Inorganic pigments (SIC 2816): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	121.3	107.2	111.6	97.2	107.6	112.5	97.4
1973	130.6	114.0	123.2	93.0	110.9	120.0	92.3
1974	154.7	134.0	140.2	119.7	131.1	137.5	117.9
1975	108.7	104.3	103.0	107.0	104.2	103.7	105.1
1976	109.1	108.1	106.7	111.3	108.4	107.5	110.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.6	101.7	102.4	100.0	101.7	102.5	100.0
1979	100.5	95.7	96.3	94.4	95.0	95.0	94.9
1980	101.3	99.1	93.3	112.7	100.0	93.8	112.8
1981	101.9	97.0	90.2	112.7	99.2	92.5	112.8
1982	87.6	90.6	81.1	112.7	94.1	85.0	112.8
1983	96.0	89.4	81.7	107.0	90.8	82.5	107.7
1984	99.7	77.9	72.6	90.1	79.8	75.0	89.7
1985	105.6	79.6	73.2	94.4	81.5	75.0	94.9
1986 [1]	105.8	76.2	70.1	90.1	76.5	70.0	89.7
Average annual percent change:							
1972-86	-2.0	-3.0	-4.1	-.5	-2.7	-3.9	-.4
1982-86	4.8	-4.5	-3.9	-5.6	-5.1	-4.7	-5.7

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 115. Industrial inorganic chemicals, not elsewhere classified (SIC 2819 part): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	92.9	89.2	101.9	92.6	88.2	102.0
1973	98.5	96.1	104.0	98.3	94.7	105.8
1974	102.1	100.2	106.1	101.8	98.3	109.0
1975	84.0	86.7	78.9	82.6	83.9	80.4
1976	93.9	97.0	87.8	93.1	95.3	89.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	101.9	100.4	101.4	102.0	100.4
1979	114.6	114.7	114.5	116.2	117.0	115.0
1980	90.3	93.8	83.7	89.9	93.2	84.5
1981	89.3	93.8	81.2	89.3	94.1	81.6
1982	80.8	85.7	72.1	78.9	83.1	72.3
1983	85.8	91.8	75.5	82.7	87.2	75.6
1984	95.0	102.8	82.2	93.7	101.2	82.4
1985	91.5	99.8	78.0	90.8	99.2	78.4
1986 [2]	90.6	99.5	76.3	90.4	100.1	76.7
Average annual percent change:						
1972-86	-.6	.3	-2.3	-.7	.3	-2.3
1982-86	3.0	3.9	1.5	3.7	5.1	1.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 116. Industrial inorganic chemicals, not elsewhere classified (SIC 2819 part): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	74.9	80.6	84.0	73.5	80.9	84.9	73.4
1973	80.7	81.9	84.0	77.6	82.1	85.2	76.3
1974	88.8	87.0	88.6	83.7	87.2	90.3	81.5
1975	77.6	92.4	89.5	98.4	93.9	92.5	96.5
1976	88.7	94.5	91.4	101.0	95.3	93.1	99.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.8	105.3	104.8	106.4	105.3	104.7	106.4
1979	120.3	105.0	104.9	105.1	103.5	102.8	104.6
1980	101.1	112.0	107.8	120.8	112.4	108.5	119.7
1981	99.1	111.0	105.7	122.0	111.0	105.3	121.4
1982	83.6	103.5	97.5	116.0	105.9	100.6	115.6
1983	86.1	100.4	93.8	114.1	104.1	98.7	113.9
1984	95.8	100.8	93.2	116.6	102.2	94.7	116.2
1985	92.4	101.0	92.6	118.5	101.8	93.1	117.9
1986 [1]	87.8	96.9	88.2	115.0	97.1	87.7	114.5
Average annual percent change:							
1972-86	.9	1.5	.6	3.2	1.6	.6	3.3
1982-86	1.7	-1.3	-2.1	.2	-1.9	-3.3	.2

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 117. Synthetic fibers (SIC 2823, 2824): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	37.9	38.4	36.4	38.9	39.6	37.0
1964	40.4	40.6	39.7	41.9	42.4	40.5
1965	41.8	41.6	42.1	42.9	42.9	42.7
1966	42.0	42.8	39.7	42.8	43.8	40.1
1967	45.0	45.3	44.3	45.7	46.0	44.7
1968	52.1	51.1	55.4	53.7	52.9	56.3
1969	52.5	51.8	55.2	53.9	53.3	55.8
1970	53.8	53.9	53.7	54.3	54.4	54.0
1971	63.3	62.4	66.5	63.8	62.9	66.9
1972	73.0	71.1	80.2	74.7	73.0	80.3
1973	79.5	77.0	88.7	81.7	79.3	89.9
1974	78.0	77.3	80.1	78.7	77.6	82.0
1975	84.5	86.9	77.5	83.4	85.0	76.9
1976	89.5	92.1	82.5	88.2	89.8	83.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.2	104.7	106.8	105.6	105.1	106.9
1979	115.0	113.9	118.2	115.8	114.8	118.8
1980	115.7	117.4	111.0	114.9	116.0	111.8
1981	120.9	122.7	115.5	119.9	121.3	116.0
1982	103.6	108.0	91.5	100.5	103.7	91.8
1983	126.2	128.9	118.4	124.5	126.7	118.4
1984	125.3	126.8	121.0	126.3	128.0	121.4
1985	135.8	138.7	127.0	137.1	140.8	127.7
1986	146.2	146.4	145.6	148.4	149.3	146.2
1987 [2]	155.7	158.1	148.5	158.9	162.1	149.1
Average annual percent change:						
1957-87	6.0	6.1	5.8	5.9	6.0	5.7
1982-87	7.6	7.0	9.2	8.6	8.4	9.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Textile Economics Bureau, Inc. and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 118. Synthetic fibers (SIC 2823, 2824): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	33.3	87.8	86.7	91.4	85.5	84.0	90.1
1964	38.2	94.5	94.0	96.2	91.2	90.2	94.3
1965	43.8	104.9	105.3	104.0	102.2	102.1	102.6
1966	47.8	113.9	111.6	120.4	111.7	109.2	119.3
1967	48.7	108.2	107.6	109.9	106.6	105.8	108.9
1968	61.9	118.8	121.1	111.8	115.2	117.0	109.9
1969	64.2	122.2	124.0	116.4	119.1	120.4	115.0
1970	63.2	117.4	117.2	117.7	116.3	116.1	117.0
1971	72.9	115.2	116.9	109.7	114.2	115.9	108.9
1972	85.2	116.7	119.9	106.3	114.1	116.7	106.1
1973	96.3	121.1	125.0	108.6	117.8	121.5	107.1
1974	95.5	122.5	123.5	119.2	121.3	123.0	116.4
1975	85.9	101.7	98.8	110.9	103.0	101.1	108.9
1976	90.8	101.4	98.6	110.1	102.9	101.1	108.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.0	99.8	100.3	98.3	99.4	99.9	98.2
1979	113.0	98.3	99.2	95.6	97.6	98.4	95.1
1980	103.9	89.8	88.5	93.6	90.4	89.6	92.9
1981	104.2	86.2	84.9	90.2	86.9	85.9	89.6
1982	83.3	80.4	77.1	91.0	82.9	80.3	90.7
1983	96.4	76.4	74.8	81.4	77.4	76.1	81.4
1984	94.6	75.5	74.6	78.2	74.9	73.9	77.9
1985	96.0	70.7	69.2	75.6	70.0	68.2	75.2
1986	99.0	67.7	67.6	68.0	66.7	66.3	67.7
1987 [1]	102.3	65.7	64.7	68.9	64.4	63.1	68.6
Average annual percent change:							
1957-87	5.7	-.3	-.4	-.2	-.3	-.3	-.1
1982-87	3.3	-4.0	-3.5	-5.5	-4.9	-4.7	-5.5

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Textile Economics Bureau, Inc. and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 119. Pharmaceutical preparations (SIC 2834): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]		Output per employee [1]		
	All employees	Production workers	All employees	Production workers	Nonproduction workers
Index:					
1963	52.9	49.0	54.2	50.1	59.0
1964	54.0	49.3	55.7	50.7	61.6
1965	58.5	53.8	59.6	54.7	65.4
1966	60.6	55.5	62.6	57.3	69.0
1967	64.4	59.4	64.1	59.1	70.0
1968	68.4	63.6	69.6	64.8	75.3
1969	73.0	66.6	74.1	67.7	81.9
1970	74.8	70.0	77.1	72.0	82.8
1971	81.0	80.1	82.8	81.8	83.8
1972	86.8	85.1	88.4	86.6	90.2
1973	84.8	84.5	85.5	85.2	85.6
1974	90.3	89.7	90.4	89.8	90.9
1975	92.5	94.1	90.8	92.5	89.3
1976	96.4	98.1	98.0	97.7	98.3
1977	100.0	100.0	100.0	100.0	100.0
1978	98.5	99.6	100.0	101.1	98.9
1979	105.3	102.4	101.8	99.1	104.7
1980	106.0	104.7	99.7	96.4	100.9
1981	104.2	104.8	103.6	104.1	103.0
1982	107.0	106.8	105.8	105.6	105.9
1983	114.3	114.0	111.2	111.0	111.6
1984	116.4	120.4	110.9	114.8	107.2
1985	118.1	124.2	115.9	121.8	110.5
1986	121.8	128.6	120.7	127.5	114.6
1987 [2]	124.0	132.3	122.6	130.9	115.4
Average annual percent change:					
1963-87	3.6	4.2	3.3	3.9	2.7
1982-87	2.7	4.3	3.0	4.5	1.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Pharmaceutical Manufacturer's Association and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 120. Pharmaceutical preparations (SIC 2834): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours		Employees		
		All employees	Production workers	All employees	Production workers	Nonproduction workers
Index:						
1963	36.5	69.0	74.5	67.3	72.8	61.9
1964	39.7	73.5	80.6	71.3	78.3	64.4
1965	44.6	76.2	82.9	74.8	81.5	68.2
1966	48.7	80.3	87.7	77.8	85.0	70.6
1967	51.7	80.3	87.1	80.7	87.5	73.9
1968	56.4	82.4	88.7	81.0	87.1	74.9
1969	63.2	86.6	94.9	85.3	93.4	77.2
1970	68.2	91.2	97.4	88.5	94.7	82.4
1971	74.4	91.9	92.9	89.9	91.0	88.8
1972	78.3	90.2	92.0	88.6	90.4	86.8
1973	81.7	96.4	96.7	95.6	95.9	95.4
1974	86.3	95.6	96.2	95.5	96.1	94.9
1975	88.3	95.5	93.8	97.2	95.5	98.9
1976	96.1	97.7	98.0	98.1	98.4	97.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	104.1	102.9	102.5	101.4	103.6
1979	104.7	99.4	102.2	102.8	105.7	100.0
1980	106.7	100.7	101.9	107.0	108.4	105.7
1981	106.9	102.6	102.0	103.2	102.7	103.8
1982	104.1	97.3	97.5	98.4	98.6	98.3
1983	108.9	95.3	95.5	97.9	98.1	97.6
1984	108.6	93.3	90.2	97.9	94.6	101.3
1985	112.8	95.5	90.8	97.3	92.6	102.1
1986	118.6	97.4	92.2	98.3	93.0	103.5
1987 [1]	124.2	100.2	93.9	101.3	94.9	107.6
Average annual percent change:						
1963-87	4.8	1.2	.6	1.5	.9	2.1
1982-87	3.4	.7	-.8	.4	-1.1	1.8

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Pharmaceutical Manufacturer's Association and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 121. Soaps and detergents (SIC 2841): Indexes of output per employee hour and output per employee, 1963–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	72.0	64.9	89.8	70.4	62.6	89.0
1964	72.0	65.5	87.6	70.4	63.2	87.0
1965	69.9	64.5	82.4	68.5	62.5	81.6
1966	74.7	69.7	86.0	73.6	68.4	85.2
1967	79.3	74.2	90.8	77.9	72.1	90.1
1968	80.3	76.0	89.3	78.7	73.9	88.4
1969	80.2	77.2	86.3	79.0	75.8	85.2
1970	83.9	81.9	87.6	82.3	80.0	86.4
1971	86.1	85.1	87.7	83.5	81.7	86.6
1972	95.2	92.9	100.1	94.2	91.5	99.0
1973	100.8	99.4	103.4	100.2	98.2	103.6
1974	104.7	103.0	107.8	103.9	100.9	109.4
1975	97.3	95.0	101.7	96.6	93.3	102.7
1976	100.1	99.2	101.9	100.0	98.6	102.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.6	103.0	110.5	106.2	103.7	110.5
1979	104.8	102.1	110.2	105.0	102.1	110.2
1980	109.6	107.6	113.1	108.5	105.9	113.1
1981	107.3	103.9	114.4	106.1	101.7	114.4
1982	100.9	97.5	107.8	100.6	96.9	107.8
1983	97.7	94.6	103.6	98.4	95.5	103.6
1984	101.8	97.7	110.6	104.0	100.4	110.6
1985	103.3	101.2	107.4	104.8	103.3	107.4
1986 [2]	104.5	102.1	109.3	106.6	104.9	109.3
Average annual percent change:						
1958-63	2.1	2.3	1.6	2.2	2.5	1.6
1982-86	1.3	1.6	.6	1.8	2.4	.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 122. Soaps and detergents (SIC 2841): Indexes of output, employee hours, and employees, 1963–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	63.4	88.1	97.7	70.6	90.0	101.2	71.2
1964	66.0	91.7	100.7	75.3	93.8	104.4	75.9
1965	65.8	94.2	102.0	79.9	96.0	105.2	80.6
1966	69.8	93.4	100.1	81.2	94.6	102.0	81.9
1967	74.4	93.8	100.3	81.9	95.5	103.2	82.6
1968	78.9	98.3	103.8	86.4	100.3	106.8	89.3
1969	81.8	102.0	105.9	94.8	103.5	107.9	96.0
1970	85.8	102.3	104.7	98.0	104.3	107.2	99.3
1971	89.1	96.5	97.6	94.8	99.5	101.7	96.0
1972	93.7	98.4	100.9	93.6	99.5	102.4	94.6
1973	100.2	99.4	100.8	96.9	100.0	102.0	96.7
1974	102.1	97.5	99.1	94.7	98.3	101.2	93.3
1975	92.3	94.9	97.2	90.8	95.5	98.9	89.9
1976	97.5	97.4	98.3	95.7	97.5	98.9	95.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	102.6	105.1	98.0	102.0	104.4	98.0
1979	109.4	104.4	107.2	99.3	104.2	107.2	99.3
1980	116.9	106.7	108.6	103.4	107.7	110.4	103.4
1981	117.5	109.5	113.1	102.7	110.7	115.5	102.7
1982	109.2	108.2	112.0	101.3	108.5	112.7	101.3
1983	104.3	106.8	110.2	100.7	106.0	109.2	100.7
1984	106.8	104.9	109.3	96.6	102.7	106.4	96.6
1985	109.5	106.0	108.2	102.0	104.5	106.0	102.0
1986 [1]	113.7	108.8	111.4	104.0	106.7	108.4	104.0
Average annual percent change:							
1958-86	3.1	1.0	.8	1.5	.9	.6	1.5
1982-86	1.3	(2)	-.3	.7	-.5	-1.1	.7

[1] Preliminary.

[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 123. Cosmetics and other toiletries (SIC 2844): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	57.0	58.1	55.1	57.9	59.8	55.0
1964	63.8	65.3	61.4	63.1	64.4	60.9
1965	65.7	66.6	64.5	66.0	67.4	64.0
1966	65.2	65.1	65.4	66.9	68.1	64.9
1967	62.5	63.1	61.6	62.8	64.0	61.2
1968	67.5	67.4	67.7	67.6	67.9	67.0
1969	64.8	64.7	65.1	65.2	65.8	64.2
1970	65.9	68.9	61.6	66.8	71.1	60.6
1971	73.3	80.4	64.2	73.4	81.4	63.3
1972	82.5	89.1	73.9	82.8	90.3	73.1
1973	87.2	97.4	74.9	87.7	97.9	75.1
1974	91.6	95.2	86.4	92.4	95.8	87.7
1975	94.0	96.6	91.6	94.8	96.4	92.5
1976	94.4	94.3	94.6	95.3	95.5	95.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.7	99.0	101.0	99.0	97.8	101.0
1979	94.0	94.7	92.8	93.5	94.0	92.8
1980	83.6	81.3	87.7	84.4	82.5	87.7
1981	76.1	70.8	86.4	76.3	71.2	86.4
1982	84.0	78.1	95.3	84.3	78.8	95.3
1983	86.2	80.0	98.6	87.6	81.9	98.6
1984	85.2	77.0	102.6	85.9	78.0	102.6
1985	87.3	79.2	104.6	87.3	79.2	104.6
1986 [2]	94.3	84.6	115.3	94.1	84.4	115.3
Average annual percent change:						
1958-86	2.8	2.5	3.3	2.8	2.5	3.3
1982-86	2.5	1.5	4.5	2.2	1.0	4.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 124. Cosmetics and other toiletries (SIC 2844): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	38.2	67.0	65.7	68.9	66.0	63.9	69.5
1964	42.6	66.8	65.2	69.4	67.5	66.1	70.0
1965	47.6	72.4	71.5	73.8	72.1	70.6	74.4
1966	52.1	79.9	80.0	79.7	77.9	76.5	80.3
1967	51.8	82.9	82.1	84.1	82.5	81.0	84.7
1968	59.8	88.6	88.7	88.3	88.5	88.1	89.2
1969	62.0	95.7	95.9	95.3	95.1	94.2	96.6
1970	66.8	101.4	97.0	108.5	100.0	93.9	109.9
1971	68.0	92.8	84.6	106.0	92.6	83.5	107.4
1972	77.8	94.3	87.3	105.3	94.0	86.2	106.4
1973	84.7	97.1	87.0	113.1	96.6	86.5	112.8
1974	88.1	96.2	92.5	102.0	95.3	92.0	100.5
1975	87.5	93.1	91.5	95.5	92.3	90.8	94.6
1976	95.5	101.2	101.3	101.0	100.2	100.0	100.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.9	105.2	106.0	103.9	106.0	107.3	103.9
1979	101.1	107.6	106.8	108.9	108.1	107.6	108.9
1980	91.1	109.0	112.1	103.9	107.9	110.4	103.9
1981	90.6	119.0	127.9	104.9	118.7	127.2	104.9
1982	99.0	117.9	126.7	103.9	117.4	125.7	103.9
1983	103.4	119.9	129.2	104.9	118.1	126.3	104.9
1984	107.6	126.3	139.7	104.9	125.3	137.9	104.9
1985	109.7	125.6	138.5	104.9	125.7	138.5	104.9
1986 [1]	114.1	121.0	134.8	99.0	121.3	135.2	99.0
Average annual percent change:							
1958-86	5.7	2.9	3.1	2.3	2.9	3.2	2.3
1982-86	3.5	1.0	2.0	-1.0	1.3	2.4	-1.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 125. Paints and allied products (SIC 2851): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	68.2	66.9	69.9	69.4	66.2	70.9
1964	72.5	70.4	75.4	74.6	72.8	76.8
1965	73.3	72.0	75.1	74.6	73.2	76.1
1966	76.9	75.1	79.2	78.0	76.4	79.9
1967	73.7	72.9	74.6	74.2	73.2	75.2
1968	81.0	80.1	82.1	81.9	80.5	83.5
1969	83.8	81.8	86.3	84.0	81.4	87.2
1970	74.9	73.5	76.8	74.8	72.9	77.3
1971	84.1	84.4	83.8	83.1	82.2	84.3
1972	88.0	85.9	90.7	88.5	86.6	90.8
1973	82.2	80.3	84.7	81.0	77.2	86.0
1974	90.4	91.5	89.0	90.9	90.6	91.3
1975	94.2	99.0	88.8	94.0	97.2	90.4
1976	97.3	99.6	94.2	97.7	99.4	95.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.3	105.0	103.3	103.9	104.4	103.4
1979	104.8	103.5	106.5	103.6	100.9	106.9
1980	100.8	105.0	95.7	99.1	101.5	96.5
1981	99.8	103.4	95.5	98.7	101.2	95.9
1982	106.5	113.8	98.3	104.7	110.3	98.8
1983	113.8	120.0	106.8	112.3	117.6	106.6
1984	121.5	125.6	116.6	119.9	122.4	117.0
1985	125.6	130.6	119.7	124.2	127.8	120.4
1986	125.2	131.1	118.2	124.2	129.3	118.7
1987 [2]	128.5	132.2	124.1	127.8	130.7	124.5
Average annual percent change:						
1958-87	2.7	3.0	2.3	2.5	2.8	2.2
1982-87	3.7	3.1	4.4	3.9	3.4	4.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 126. Paints and allied products (SIC 2851): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	67.0	98.2	100.1	95.8	96.5	98.2	94.5
1964	71.6	98.7	101.7	94.9	96.0	98.4	93.2
1965	76.5	104.3	106.3	101.9	102.6	104.5	100.5
1966	82.5	107.3	109.9	104.2	105.8	108.0	103.3
1967	77.2	104.8	105.9	103.5	104.1	105.4	102.6
1968	83.9	103.6	104.7	102.2	102.5	104.2	100.5
1969	88.2	105.2	107.8	102.2	105.0	106.3	101.2
1970	84.0	112.2	114.3	109.4	112.3	115.3	108.7
1971	89.0	105.8	105.5	106.2	107.1	108.3	105.6
1972	95.0	108.0	110.6	104.7	107.4	109.7	104.6
1973	91.5	111.3	113.9	108.0	112.9	118.5	106.4
1974	96.1	106.3	105.0	108.0	105.7	106.1	105.3
1975	91.7	97.3	92.6	103.3	97.6	94.3	101.4
1976	96.1	98.8	96.5	102.0	98.4	96.7	100.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	99.8	99.1	100.8	100.2	99.7	100.7
1979	106.5	101.6	102.9	100.0	102.8	105.5	99.6
1980	100.6	99.8	96.8	105.1	101.5	99.1	104.2
1981	96.6	96.8	93.4	101.2	97.9	95.5	100.7
1982	92.2	86.6	81.0	93.8	88.1	83.6	93.3
1983	98.0	86.1	81.7	91.8	87.3	83.3	91.9
1984	108.0	88.9	86.0	92.6	90.1	89.2	92.3
1985	112.3	89.4	86.0	93.8	90.4	87.9	93.3
1986	112.9	90.2	86.1	95.5	90.9	87.3	95.1
1987 [1]	114.9	89.4	86.9	92.6	89.9	87.9	92.3
Average annual percent change:							
1958-87	2.4	-.3	-.6	.1	-.2	-.5	.1
1982-87	4.6	.9	1.5	.2	.6	1.1	.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 127. Industrial organic chemicals, not elsewhere classified (SIC 2869): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	46.7	45.2	50.0	48.6	44.5	50.7
1964	50.1	48.6	53.2	50.5	48.6	54.1
1965	55.3	52.7	61.2	55.5	52.2	62.2
1966	58.0	55.6	63.1	57.7	54.7	63.7
1967	56.3	54.7	59.8	56.1	53.8	60.4
1968	58.1	57.0	60.2	58.8	57.3	61.4
1969	61.9	60.3	65.2	62.9	61.2	65.9
1970	65.5	65.1	66.3	65.4	64.6	66.8
1971	72.6	72.5	73.0	72.0	71.2	73.4
1972	81.5	82.2	80.4	80.4	80.4	80.5
1973	90.4	89.4	92.7	90.8	88.9	94.2
1974	102.8	102.3	104.0	103.6	101.9	106.7
1975	85.3	88.3	80.1	84.2	85.7	81.5
1976	93.4	94.7	91.1	92.8	92.9	92.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.8	104.4	99.5	102.9	104.9	99.5
1979	113.4	114.5	111.4	113.7	114.9	111.9
1980	96.9	103.4	91.1	98.1	102.3	91.8
1981	103.9	108.3	96.1	104.2	109.4	96.5
1982	87.2	94.8	75.6	85.6	92.8	75.8
1983	105.3	112.4	93.8	104.0	111.0	93.8
1984	113.9	122.0	101.0	113.0	121.2	101.5
1985	112.5	121.1	99.1	111.8	120.6	98.4
1986 [2]	119.5	126.2	108.3	119.8	127.4	108.7
Average annual percent change:						
1963-86	4.0	4.5	3.0	3.9	4.6	2.9
1982-86	7.2	6.7	8.0	7.7	7.4	8.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 128. Industrial organic chemicals, not elsewhere classified (SIC 2869): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	36.5	78.0	78.5	71.0	78.1	79.8	70.0
1964	39.2	79.3	80.7	73.7	77.6	80.6	72.4
1965	45.3	81.9	85.9	74.0	81.6	86.7	72.8
1966	49.2	84.9	88.5	78.0	85.2	90.0	77.2
1967	47.5	84.3	86.8	79.4	84.7	86.3	78.6
1968	51.6	86.8	90.5	85.7	87.8	90.0	84.1
1969	56.9	91.9	94.3	87.3	90.5	92.9	86.3
1970	60.7	92.7	93.3	91.5	92.8	93.9	90.9
1971	64.2	88.4	88.6	88.0	89.2	90.2	87.5
1972	73.3	89.9	89.2	91.2	91.2	91.2	91.1
1973	83.1	91.9	93.0	89.6	91.5	93.5	88.2
1974	94.6	92.0	92.5	91.0	91.3	92.8	88.7
1975	78.6	92.1	89.0	98.1	93.4	91.7	96.4
1976	90.3	96.7	95.4	99.1	97.3	97.2	97.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.3	101.5	99.9	104.8	101.4	99.4	104.8
1979	116.7	102.9	101.9	104.8	102.8	101.8	104.3
1980	102.4	103.5	99.0	112.4	104.4	100.1	111.5
1981	103.9	100.0	95.9	108.1	99.7	95.0	107.7
1982	85.3	97.8	90.0	112.9	99.6	91.9	112.5
1983	98.8	93.8	87.9	105.3	95.0	89.0	105.3
1984	104.1	91.4	85.3	103.1	92.1	85.9	102.6
1985	96.0	85.3	79.3	96.9	86.9	79.6	96.6
1986 [1]	92.6	77.4	73.3	86.4	77.2	72.6	86.1
Average annual percent change:							
1963-86	4.6	.6	.1	1.6	.6	.1	1.6
1982-86	1.3	-5.5	-6.0	-6.2	-5.9	-6.7	-6.2

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 129. Agricultural chemicals (SIC 287): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	75.3	76.5	72.9	75.4	76.7	72.9
1973	86.7	87.4	85.2	87.9	88.5	86.6
1974	95.9	95.4	97.1	96.7	95.4	99.4
1975	86.7	87.8	84.6	87.2	87.8	86.2
1976	92.4	94.4	88.3	93.5	95.6	89.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	103.1	97.9	101.1	102.9	97.8
1979	102.0	101.4	103.2	103.6	103.4	103.7
1980	97.2	97.7	95.9	100.4	102.6	98.6
1981	97.7	98.1	96.8	101.1	103.3	97.3
1982	94.5	99.9	84.4	93.6	98.9	84.9
1983	106.2	111.8	95.8	104.3	109.6	95.6
1984	119.8	124.3	111.3	119.1	123.2	111.8
1985	115.6	121.2	105.0	113.9	119.1	105.1
1986 [2]	108.8	115.2	97.2	109.0	116.2	97.4
Average annual percent change:						
1972-86	2.2	2.6	1.5	2.1	2.5	1.4
1982-86	3.7	3.7	3.6	4.0	4.1	3.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census; the National Agricultural Chemicals Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 130. Agricultural chemicals (SIC 287): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	67.0	89.0	87.6	91.9	88.9	87.3	91.9
1973	76.3	88.0	87.3	89.6	88.0	86.2	88.1
1974	89.2	93.0	93.5	91.9	92.2	93.5	89.7
1975	84.3	97.2	96.0	99.7	96.7	96.0	97.8
1976	90.2	97.6	95.6	102.1	96.5	94.4	100.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.0	98.6	97.0	102.1	98.6	97.2	102.2
1979	102.0	100.0	100.6	98.8	98.6	98.6	98.4
1980	103.4	106.4	105.8	107.8	103.6	100.8	107.0
1981	104.1	106.5	106.1	107.5	100.0	100.8	107.0
1982	88.5	93.7	88.6	104.8	94.6	89.5	104.3
1983	88.9	83.7	79.5	92.8	95.2	81.1	93.0
1984	100.3	83.7	80.7	90.1	84.2	81.4	89.7
1985	94.9	82.1	78.3	90.4	81.3	79.7	90.3
1986 [1]	82.7	76.0	71.8	85.1	75.9	71.2	84.9
Average annual percent change:							
1972-86	1.3	-.9	-1.3	-.2	-.8	-1.2	-.1
1982-86	-.7	-4.3	-4.3	-4.3	-4.5	-4.9	-4.3

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census; the National Agricultural Chemicals Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 131. Nitrogenous fertilizers (SIC 2873): Indexes of output per employee hour and output per employee, 1972–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	82.6	83.2	81.4	82.6	83.2	81.7
1973	92.6	88.7	102.7	94.2	89.8	103.8
1974	99.5	95.0	111.5	98.4	91.4	115.1
1975	94.8	93.7	97.4	95.1	92.7	100.0
1976	96.5	94.6	97.6	98.9	93.6	99.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.5	115.4	93.3	107.3	113.1	98.0
1979	110.4	113.7	103.7	108.7	110.9	104.7
1980	124.2	125.1	122.5	122.3	122.1	122.9
1981	121.4	123.3	117.3	124.0	127.3	118.0
1982	114.7	122.9	99.6	112.8	121.7	99.4
1983	128.1	141.9	104.9	124.8	138.9	104.7
1984	152.6	164.2	131.6	147.9	157.8	132.1
1985	149.7	160.2	130.5	143.3	150.6	131.0
1986 [2]	133.5	141.7	118.1	133.9	144.3	117.9
Average annual percent change:						
1972-86	3.9	4.7	2.1	3.6	4.6	1.9
1982-86	4.7	4.1	5.8	4.9	4.3	5.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 132. Nitrogenous fertilizers (SIC 2873): Indexes of output, employee hours, and employees, 1972–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	64.2	77.7	77.2	78.9	77.7	77.2	78.6
1973	71.6	77.3	80.7	69.7	76.0	79.7	69.0
1974	82.2	82.6	86.5	73.7	83.5	89.9	71.4
1975	83.3	87.9	88.9	85.5	87.8	89.9	83.3
1976	92.4	95.8	97.7	94.7	93.4	93.7	92.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.3	98.0	93.0	109.2	100.0	94.9	109.5
1979	99.7	90.3	87.7	96.1	91.7	89.9	95.2
1980	111.2	89.5	88.9	90.8	90.9	91.1	90.5
1981	109.6	90.3	88.9	93.4	88.4	86.1	92.9
1982	97.0	84.6	78.9	97.4	86.0	79.7	97.6
1983	89.7	70.0	63.2	85.5	71.9	64.6	85.7
1984	103.8	98.0	63.2	78.9	70.2	65.8	78.6
1985	103.0	68.8	64.3	78.9	71.9	68.4	78.6
1986 [1]	73.0	54.7	51.5	61.8	54.5	50.6	61.9
Average annual percent change:							
1972-86	1.8	-2.0	-2.8	-.3	-1.8	-2.7	-.2
1982-86	-4.2	-8.5	-8.0	-9.4	-8.7	-8.2	-9.5

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 133. Phosphatic fertilizers (SIC 2874): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	73.0	70.9	79.6	72.9	70.6	79.2
1973	88.6	85.2	99.5	89.8	86.0	100.4
1974	98.0	92.8	115.9	99.8	93.4	119.3
1975	81.8	79.4	89.2	81.4	78.1	90.4
1976	93.2	92.0	96.7	92.2	90.1	97.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.2	96.7	98.9	98.2	97.9	98.9
1979	94.4	93.5	97.4	96.5	96.1	97.7
1980	92.9	91.3	97.7	97.1	96.6	98.3
1981	84.4	84.3	84.9	87.4	88.6	84.9
1982	88.0	91.9	78.6	85.3	88.2	79.2
1983	108.1	108.3	107.2	105.9	105.3	107.4
1984	121.8	124.9	114.0	119.8	122.8	113.5
1985	113.5	119.8	99.3	110.0	115.3	99.3
1986 [2]	104.7	114.2	84.9	101.3	110.0	85.5
Average annual percent change:						
1972-86	2.0	2.8	(3)	1.8	2.6	(3)
1982-86	4.0	5.5	-.8	3.9	5.5	-.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 134. Phosphatic fertilizers (SIC 2874): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	75.5	103.4	106.5	94.9	103.5	106.9	95.3
1973	81.7	92.2	95.9	82.1	91.0	95.0	81.4
1974	102.6	104.7	110.6	88.5	102.8	109.9	86.0
1975	90.4	110.5	110.8	101.3	111.1	115.8	100.0
1976	95.4	102.4	103.7	98.7	103.5	105.9	97.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.9	101.7	102.3	100.0	100.7	101.0	100.0
1979	99.9	105.8	106.9	102.6	103.5	104.0	102.3
1980	105.2	113.2	115.2	107.7	108.3	108.9	107.0
1981	94.7	112.2	112.4	111.5	108.3	106.9	111.6
1982	84.7	96.3	92.2	107.7	99.3	96.0	107.0
1983	94.9	87.8	87.6	88.5	89.6	90.1	85.4
1984	108.2	88.8	86.6	94.9	90.3	88.1	95.3
1985	99.3	87.5	82.9	100.0	90.3	86.1	100.0
1986 [1]	79.5	75.9	69.6	93.6	78.5	72.3	93.0
Average annual percent change:							
1972-86	.6	-1.4	-2.2	.5	-1.2	-2.0	.6
1982-86	-1.8	-4.7	-6.0	-1.6	-4.5	-5.9	-1.6

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 135. Fertilizers, mixing only (SIC 2875): Indexes of output per employee hour and output per employee, 1972–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	79.7	82.3	74.9	79.4	82.1	74.7
1973	84.2	85.9	81.0	84.8	86.3	82.1
1974	95.6	97.8	91.3	94.2	94.8	92.9
1975	96.2	100.1	89.0	94.4	96.4	90.9
1976	104.3	106.5	100.0	103.9	105.4	101.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.6	104.8	98.6	102.0	103.8	98.9
1979	107.0	100.6	122.8	112.5	107.6	123.1
1980	90.6	92.2	87.4	98.1	104.8	87.5
1981	83.3	84.5	80.9	90.0	95.3	81.4
1982	79.8	84.1	72.4	81.1	86.5	72.5
1983	91.9	96.1	84.7	91.2	95.5	84.0
1984	99.1	100.6	96.3	99.1	100.0	97.3
1985	102.6	105.7	96.6	103.0	106.1	97.6
1986 [2]	95.7	98.9	89.6	97.3	102.1	89.2
Average annual percent change:						
1972-86	.4	.5	.3	.6	.8	.2
1982-86	4.8	4.3	5.7	5.0	4.5	5.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 136. Fertilizers, mixing only (SIC 2875): Indexes of output, employee hours, and employees, 1972–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	73.0	91.6	88.7	97.4	91.9	88.9	97.7
1973	82.1	97.5	95.6	101.3	96.8	95.1	100.0
1974	84.3	88.2	86.2	92.3	89.5	88.9	90.7
1975	84.5	87.8	84.4	94.9	89.5	87.7	93.0
1976	87.2	83.6	81.9	87.2	83.9	82.7	86.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	89.7	87.4	85.6	91.0	87.9	86.4	90.7
1979	94.4	88.2	93.8	76.9	83.9	87.7	76.7
1980	99.7	110.1	108.1	114.1	101.6	95.1	114.0
1981	87.1	104.6	103.1	107.7	96.8	91.4	107.0
1982	64.1	80.3	76.2	88.5	79.0	74.1	88.4
1983	68.4	74.4	71.2	80.8	75.0	71.6	81.4
1984	67.9	68.5	67.5	70.5	68.5	67.9	69.8
1985	68.1	66.4	64.4	70.5	66.1	64.2	69.8
1986 [1]	64.3	67.2	65.0	71.8	66.1	63.0	72.1
Average annual percent change:							
1972-86	-1.8	-2.2	-2.2	-2.1	-2.4	-2.6	-2.0
1982-86	(2)	-4.6	-4.1	-5.4	-4.7	-4.2	-5.5

[1] Preliminary.

[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 137. Pesticides and agricultural chemicals, not elsewhere classified (SIC 2879): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	69.5	76.9	59.6	69.7	77.6	59.9
1973	83.0	92.6	70.4	84.5	94.9	71.7
1974	90.9	99.3	79.2	93.5	103.1	81.1
1975	79.8	86.5	70.3	82.5	90.9	71.7
1976	81.7	89.5	70.8	83.7	93.0	72.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.6	99.3	97.2	98.6	99.5	97.0
1979	99.7	100.8	97.8	100.7	102.2	98.3
1980	88.6	90.7	85.1	90.4	93.3	86.2
1981	105.7	104.8	107.2	107.1	106.8	107.8
1982	95.7	101.1	87.7	96.0	101.2	88.5
1983	97.2	104.1	87.2	96.5	103.2	87.3
1984	110.0	112.0	108.6	112.8	116.4	107.6
1985	103.1	106.5	97.7	105.3	110.0	98.4
1986 [2]	103.1	105.1	99.9	107.1	111.7	100.4
Average annual percent change:						
1972-86	2.3	1.7	3.1	2.3	1.8	3.0
1982-86	2.1	1.0	3.8	3.1	2.6	3.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census; the National Agricultural Chemicals Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 138. Pesticides and agricultural chemicals, not elsewhere classified (SIC 2879): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	56.7	81.6	73.7	95.1	81.3	73.1	94.7
1973	70.4	84.8	76.0	100.0	83.3	74.2	98.2
1974	85.4	94.0	86.0	107.8	91.3	82.8	105.3
1975	79.2	99.3	91.6	112.6	96.0	87.1	110.5
1976	86.0	105.3	96.1	121.4	102.7	92.5	119.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.8	105.3	104.5	106.8	105.3	104.3	107.0
1979	112.1	112.4	111.2	114.6	111.3	109.7	114.0
1980	98.3	111.0	108.4	115.5	108.7	105.4	114.0
1981	122.9	116.3	117.3	114.6	114.7	115.1	114.0
1982	105.6	110.3	104.5	120.4	110.0	104.3	119.3
1983	96.5	99.3	92.7	110.7	100.0	93.5	110.5
1984	115.1	104.6	102.8	107.9	102.0	98.9	107.0
1985	105.3	102.1	98.9	107.8	100.0	95.7	107.0
1986 [1]	105.7	102.5	100.6	105.8	98.7	94.6	105.3
Average annual percent change:							
1972-86	3.6	1.3	1.9	.5	1.3	1.9	.6
1982-86	.9	-1.2	-.1	-2.8	-2.1	-1.7	-2.8

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census; the National Agricultural Chemicals Association; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 139. Petroleum refining (SIC 2911): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	55.7	54.6	58.7	54.5	52.3	60.2
1964	58.7	57.7	61.9	58.3	56.2	63.7
1965	63.6	62.5	67.2	62.7	60.4	68.8
1966	68.7	67.4	72.5	67.9	65.6	73.8
1967	70.4	69.5	72.9	70.0	68.3	74.3
1968	72.1	71.7	73.4	72.3	71.1	75.6
1969	74.2	75.8	70.4	76.6	76.4	77.1
1970	73.8	74.1	73.4	74.6	73.6	76.8
1971	77.2	78.1	75.0	77.2	75.6	78.6
1972	84.9	84.8	85.3	84.9	83.1	89.4
1973	93.6	94.7	91.1	92.6	91.3	95.4
1974	86.4	85.6	88.8	86.3	83.8	92.4
1975	88.7	89.7	86.7	87.7	86.9	89.2
1976	93.0	92.6	94.2	94.0	93.1	95.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	100.6	103.2	103.3	103.3	103.1
1979	94.9	96.8	90.4	96.0	96.7	90.6
1980	94.2	100.3	81.8	94.8	96.7	90.7
1981	83.7	85.7	78.7	84.9	87.9	78.9
1982	79.4	82.8	71.8	80.3	84.5	72.1
1983	81.8	86.1	72.5	83.5	89.5	72.6
1984	92.5	96.6	83.7	95.6	101.8	84.0
1985	102.6	106.3	94.1	105.5	111.4	94.4
1986	113.8	119.5	101.7	113.6	119.6	102.0
1987 [2]	118.8	119.2	117.4	118.8	119.2	117.7
Average annual percent change:						
1947-87	4.1	4.4	3.1	4.1	4.5	3.1
1982-87	9.3	8.6	10.8	8.9	8.0	10.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 140. Petroleum refining (SIC 2911): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	62.9	113.0	115.2	107.1	115.4	120.3	104.4
1964	64.7	110.2	112.2	104.6	111.0	115.2	101.6
1965	66.5	104.5	106.4	99.0	106.0	110.1	96.6
1966	69.9	101.8	103.7	96.4	102.9	106.8	94.7
1967	72.9	103.6	104.9	100.0	104.1	106.7	98.1
1968	75.6	104.9	105.5	103.0	104.5	106.4	100.0
1969	76.9	103.7	101.4	109.3	100.4	100.7	99.7
1970	78.3	106.1	105.7	106.7	105.0	106.4	102.0
1971	80.4	104.2	102.9	107.2	104.1	104.9	102.3
1972	83.5	98.4	98.5	97.9	98.3	100.5	93.4
1973	88.4	94.4	93.3	97.0	95.5	96.8	92.7
1974	86.6	100.2	101.2	97.5	100.3	103.3	93.7
1975	85.9	98.8	95.8	99.1	98.0	98.8	96.3
1976	93.2	100.2	100.6	98.9	99.2	100.1	97.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	101.2	101.9	99.3	99.2	99.2	99.4
1979	101.5	107.0	104.9	112.3	105.7	102.8	112.0
1980	95.0	100.8	94.7	116.2	100.2	98.2	104.7
1981	90.1	107.7	105.1	114.5	106.1	102.5	114.2
1982	85.1	107.2	102.8	118.5	106.0	100.7	118.0
1983	84.3	103.0	97.9	116.2	101.0	94.2	116.1
1984	88.2	95.3	91.3	105.4	92.3	86.6	105.0
1985	88.2	86.0	83.0	93.7	83.6	79.2	93.4
1986	93.3	82.0	78.1	91.7	82.1	78.0	91.5
1987 [1]	94.3	79.4	79.1	80.3	79.4	79.1	80.1
Average annual percent change:							
1947-87	2.6	-1.4	-1.7	-.5	-1.5	-1.9	-.5
1982-87	2.4	-6.3	-5.8	-7.6	-6.0	-5.2	-7.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 141. Tires and inner tubes (SIC 3011): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	72.9	72.4	74.3	72.3	72.1	73.3
1964	79.6	78.8	81.7	81.1	81.3	80.8
1965	81.3	80.8	82.6	83.5	84.1	81.4
1966	83.0	82.1	85.7	85.3	85.7	84.0
1967	82.7	83.6	79.7	79.6	80.1	78.0
1968	88.5	88.4	88.7	91.4	91.6	90.3
1969	85.4	85.1	86.6	89.0	89.2	88.6
1970	87.6	90.1	79.6	86.3	87.7	81.8
1971	94.3	95.7	89.2	93.0	94.0	90.6
1972	97.8	97.6	98.3	99.0	99.3	98.4
1973	95.1	96.3	90.7	93.9	94.4	92.3
1974	93.3	95.0	87.0	93.3	94.3	89.6
1975	91.8	95.5	79.9	88.8	91.4	81.5
1976	99.8	105.8	82.3	89.6	91.5	83.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.7	106.0	114.0	107.2	105.5	114.0
1979	107.3	107.1	108.2	103.6	102.3	108.6
1980	102.4	106.7	89.0	96.2	98.3	89.6
1981	118.1	117.7	118.8	113.5	111.9	119.5
1982	128.2	130.2	121.3	120.9	120.7	122.1
1983	136.1	135.4	138.7	135.4	134.5	139.0
1984	146.8	142.7	164.7	147.1	142.5	165.6
1985	146.7	145.0	153.5	140.0	136.5	154.3
1986	151.4	149.5	158.8	146.3	142.8	159.4
1987 [2]	167.8	166.0	173.8	165.4	163.1	174.5
Average annual percent change:						
1947-87	3.5	3.7	3.1	3.5	3.6	3.0
1982-87	4.9	4.5	6.3	5.1	4.8	6.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 142. Tires and inner tubes (SIC 3011): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	54.1	74.2	74.7	72.8	74.8	75.0	73.8
1964	61.1	76.8	77.5	74.8	75.3	75.2	75.6
1965	64.9	79.8	80.3	78.6	77.7	77.2	79.7
1966	69.6	83.9	84.8	81.2	81.6	81.2	82.9
1967	64.7	78.2	77.4	81.2	81.3	80.8	82.9
1968	78.7	88.9	89.0	88.7	86.1	85.9	87.2
1969	80.3	94.0	94.4	92.7	90.2	90.0	90.6
1970	76.1	86.9	84.5	95.6	88.2	86.8	93.0
1971	85.6	90.8	89.4	96.0	92.0	91.1	94.5
1972	93.4	95.5	95.7	95.0	94.3	94.1	94.9
1973	94.4	93.3	98.0	104.1	100.5	100.0	102.3
1974	95.9	102.8	100.9	110.2	102.8	101.7	107.0
1975	82.7	90.1	86.6	103.5	93.1	90.5	101.5
1976	81.6	81.8	77.1	99.2	91.1	89.2	97.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.7	89.8	91.2	84.8	90.2	91.7	84.8
1979	93.8	87.4	87.6	86.7	90.5	91.7	86.4
1980	73.6	71.9	69.0	82.7	76.5	74.9	82.1
1981	79.0	66.9	67.1	66.5	69.6	70.6	66.1
1982	74.6	58.2	57.3	61.5	61.7	61.8	61.1
1983	79.5	58.4	58.7	57.3	58.7	59.1	57.2
1984	90.9	61.9	63.7	55.2	61.8	63.8	54.9
1985	86.4	58.9	59.6	56.3	61.7	63.3	56.0
1986	83.7	55.3	56.0	52.7	57.2	58.6	52.5
1987 [1]	92.3	55.0	55.6	53.1	55.8	56.6	52.9
Average annual percent change:							
1947-87	2.9	-.7	-.8	-.2	-.6	-.7	-.2
1982-87	3.4	-1.4	-1.0	-2.7	-1.6	-1.3	-2.7

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 143. Miscellaneous plastics products (SIC 3079): Indexes of output per employee hour and output per employee, 1972–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	86.6	85.4	91.7	86.8	85.8	90.5
1973	93.6	92.4	98.5	93.3	92.2	98.3
1974	86.2	86.4	85.3	85.0	84.9	85.8
1975	86.2	89.1	76.6	85.1	87.6	77.0
1976	89.5	90.3	86.5	89.1	89.8	86.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.8	100.5	102.0	101.0	100.7	102.0
1979	94.8	94.7	95.0	94.4	94.2	95.0
1980	95.7	97.3	90.1	94.8	96.1	90.1
1981	98.5	99.5	94.5	97.9	98.7	94.5
1982	110.1	113.0	100.3	108.0	110.2	100.3
1983	107.2	107.7	105.3	108.6	109.5	105.3
1984	110.5	109.8	113.3	112.4	112.3	113.3
1985	113.0	113.2	112.0	113.9	114.4	112.0
1986 [2]	114.1	114.4	113.2	115.5	116.0	113.2
Average annual percent change:						
1972-86	2.1	2.1	1.9	2.2	2.3	1.9
1982-86	1.2	.7	3.1	1.8	1.5	3.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 144. Miscellaneous plastics products (SIC 3079): Indexes of output, employee hours, and employees, 1972–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	70.3	81.2	82.3	76.7	81.0	81.9	77.7
1973	84.9	90.7	91.9	86.2	91.0	92.1	86.4
1974	77.3	89.7	89.5	90.6	90.9	91.1	90.1
1975	67.6	78.4	75.9	88.2	79.4	77.2	87.8
1976	80.4	89.8	89.0	92.9	90.2	89.5	92.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	110.7	109.8	110.1	108.5	109.6	109.9	108.5
1979	109.0	115.0	115.1	114.7	115.5	115.7	114.7
1980	103.4	108.0	106.3	114.7	109.1	107.6	114.7
1981	110.5	112.2	111.0	116.9	112.9	111.9	116.9
1982	116.4	105.7	103.0	116.1	107.8	105.6	116.1
1983	123.4	115.1	114.6	117.2	113.6	112.7	117.2
1984	142.9	129.3	130.2	126.1	127.1	127.3	126.1
1985	148.2	131.2	130.9	132.3	130.1	129.6	132.3
1986 [1]	154.9	135.7	135.4	136.8	134.1	133.5	136.8
Average annual percent change:							
1972-86	5.7	3.6	3.5	3.8	3.5	3.4	3.8
1982-86	7.8	6.5	7.0	4.6	5.9	6.3	4.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 145. Footwear (SIC 314): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	98.7	96.5	118.7	100.6	98.6	119.3
1964	98.4	95.9	121.3	102.2	100.1	122.3
1965	97.9	95.5	119.5	101.1	99.0	120.2
1966	99.0	96.8	118.9	102.8	101.1	119.0
1967	96.5	94.4	116.9	99.7	97.8	117.0
1968	100.1	97.8	122.0	104.1	102.2	122.2
1969	93.4	92.0	105.7	95.2	93.9	106.9
1970	100.3	99.3	107.9	102.6	101.5	110.6
1971	102.2	101.9	105.0	104.6	104.1	108.1
1972	99.5	99.0	103.7	104.1	103.6	108.9
1973	98.5	98.3	99.7	101.5	101.2	103.1
1974	96.8	97.6	90.8	98.0	98.5	94.1
1975	101.3	101.6	98.3	101.8	101.9	100.7
1976	102.1	102.0	102.4	102.7	102.5	104.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	101.9	106.8	101.3	100.6	106.7
1979	100.2	101.0	94.8	99.4	99.9	95.1
1980	99.1	100.2	92.0	98.6	99.3	92.5
1981	95.6	96.1	92.1	96.4	96.9	92.4
1982	106.4	107.3	99.9	103.8	104.2	100.2
1983	103.9	104.7	98.2	103.5	104.1	98.2
1984	105.7	107.4	94.1	103.7	104.9	94.4
1985	107.3	108.8	98.1	106.9	108.2	98.6
1986	109.5	112.4	92.8	108.0	110.4	93.2
1987 [2]	104.5	104.1	106.8	107.4	107.4	107.2
Average annual percent change:						
1947-87	.8	.9	(3)	.8	.9	-.1
1982-87	.2	.2	.6	.9	1.0	.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Staustics.

Table 146. Footwear (SIC 314): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	147.1	149.0	152.4	123.9	146.2	149.2	123.3
1964	150.0	152.4	156.4	123.7	146.7	149.8	122.6
1965	151.3	154.6	158.5	126.6	149.7	152.9	125.9
1966	155.2	156.7	160.3	130.5	151.0	153.5	130.4
1967	144.5	149.7	153.1	123.6	144.9	147.7	123.5
1968	153.8	153.7	157.3	126.1	147.7	150.5	125.9
1969	137.3	147.0	149.3	129.9	144.2	146.2	128.4
1970	135.1	134.7	136.0	125.2	131.7	133.1	122.2
1971	127.5	124.7	125.1	121.4	121.9	122.5	117.9
1972	126.0	126.6	127.3	121.5	121.0	121.6	117.9
1973	118.4	120.2	120.4	118.8	116.7	117.0	114.8
1974	109.1	112.7	111.8	120.1	111.3	110.8	116.0
1975	101.9	100.6	100.3	103.7	100.1	100.0	101.2
1976	105.6	103.4	103.5	103.1	102.8	103.0	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.1	97.7	98.2	93.7	98.8	99.5	93.8
1979	94.5	94.3	93.6	99.7	95.1	94.6	99.4
1980	91.4	92.2	91.2	99.3	92.7	92.0	98.8
1981	88.4	92.5	92.0	96.0	91.7	91.2	95.7
1982	86.6	81.4	80.7	86.7	83.4	83.1	86.4
1983	80.6	77.6	77.0	82.1	77.9	77.4	82.1
1984	72.2	68.3	67.2	76.7	69.6	68.8	76.5
1985	63.3	59.0	58.2	64.5	59.2	58.5	64.2
1986	56.4	51.5	50.2	60.8	52.2	51.1	60.5
1987 [1]	53.6	51.3	51.5	50.2	49.9	49.9	50.0
Average annual percent change:							
1947-87	-1.7	-2.6	-2.7	-1.8	-2.6	-2.7	-1.7
1982-87	-9.8	-10.0	-10.0	-10.3	-10.6	-10.7	-10.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 147. Glass containers (SIC 3221): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	73.5	72.3	82.5	76.2	75.4	82.2
1964	75.5	74.4	84.0	78.9	78.4	84.2
1965	80.3	79.2	88.8	82.7	82.1	88.5
1966	80.2	79.0	90.0	83.2	82.4	89.4
1967	82.3	81.1	93.0	85.6	84.8	91.6
1968	86.4	86.4	87.4	87.6	87.7	87.5
1969	89.1	88.7	92.5	91.0	90.5	95.3
1970	87.2	86.4	92.6	90.0	89.0	97.9
1971	88.8	88.7	89.0	91.1	90.9	92.9
1972	88.6	88.3	90.8	91.5	91.3	93.1
1973	92.6	92.5	93.2	93.7	93.7	93.3
1974	99.0	98.8	102.8	100.1	100.1	100.4
1975	98.5	98.5	98.1	96.7	96.7	96.8
1976	98.2	97.7	102.6	100.6	100.3	102.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.4	99.0	102.9	101.4	101.2	103.0
1979	102.4	102.2	103.5	103.5	103.3	103.9
1980	105.2	105.9	100.2	106.5	107.3	100.6
1981	110.1	111.0	103.6	110.3	111.4	103.8
1982	105.8	106.3	101.7	107.2	108.0	101.7
1983	108.5	109.2	103.4	110.3	111.3	103.1
1984	128.0	130.0	115.5	126.0	127.5	115.5
1985	127.0	128.0	121.0	131.5	133.0	121.3
1986	138.9	138.2	145.1	144.1	144.1	144.9
1987 [2]	143.0	142.3	149.1	147.4	147.1	150.2
Average annual percent change:						
1947-87	2.1	2.1	1.4	1.9	2.0	1.4
1982-87	6.6	6.3	8.9	7.2	7.0	9.0

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 148. Glass containers (SIC 3221): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	64.5	87.8	89.2	78.2	84.7	85.6	78.5
1964	67.4	89.3	90.6	80.2	85.4	86.0	80.0
1965	71.9	89.5	90.8	81.0	86.9	87.6	81.2
1966	75.7	94.4	95.8	84.1	91.0	91.9	84.7
1967	80.6	97.9	99.4	86.7	94.2	95.0	88.0
1968	79.1	91.5	91.6	90.5	90.3	90.2	90.4
1969	91.9	103.1	103.6	99.4	101.0	101.6	96.4
1970	94.4	108.3	109.2	101.9	104.9	106.1	96.4
1971	92.9	104.6	104.7	104.4	102.0	102.2	100.0
1972	94.2	106.3	106.7	103.8	103.0	103.2	101.2
1973	96.7	104.4	104.5	103.8	103.2	103.2	103.6
1974	95.6	96.3	96.8	93.0	95.5	95.5	95.2
1975	95.6	97.1	97.1	97.5	98.9	98.9	98.8
1976	101.3	103.2	103.7	98.7	100.7	101.0	98.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.2	104.8	105.2	101.3	102.8	103.0	101.2
1979	98.9	96.6	96.8	95.6	95.6	95.7	95.2
1980	97.0	92.2	91.6	96.8	91.1	90.4	96.4
1981	95.1	86.4	85.7	91.8	86.2	85.4	91.5
1982	89.5	84.6	84.2	88.0	83.5	82.9	88.0
1983	85.7	79.0	78.5	82.9	77.7	77.0	83.1
1984	86.3	67.4	66.4	74.7	68.5	67.7	74.7
1985	81.9	64.5	64.0	67.7	62.3	61.6	67.5
1986	87.2	62.8	63.1	60.1	60.5	60.5	60.2
1987 [1]	86.8	60.7	61.0	58.2	58.9	59.0	57.8
Average annual percent change:							
1947-87	2.5	.4	.3	1.0	.5	.4	1.0
1982-87	-.4	-6.6	-6.4	-8.6	-7.1	-6.9	-8.7

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 149. Hydraulic cement (SIC 3241): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	88.7	86.7	79.3	69.3	67.2	79.3
1964	71.0	70.1	75.7	72.6	71.8	76.0
1965	73.2	72.3	77.3	73.7	72.8	77.3
1966	76.7	76.1	80.1	78.2	77.7	79.6
1967	76.9	76.4	79.1	77.0	76.5	79.0
1968	85.3	84.2	90.3	86.9	85.8	91.4
1969	86.3	85.5	90.6	89.0	87.8	94.1
1970	84.8	85.0	84.1	86.9	86.3	89.6
1971	93.4	93.3	95.0	96.1	95.2	99.5
1972	95.0	93.9	100.4	97.4	96.1	103.2
1973	99.7	98.7	104.9	102.0	101.1	105.2
1974	91.5	90.5	96.5	92.3	91.7	94.5
1975	84.7	85.3	82.7	83.9	84.3	82.2
1976	92.4	93.3	89.4	91.8	92.3	89.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	101.0	102.8	103.4	103.4	103.0
1979	96.0	94.9	100.7	98.1	97.2	101.8
1980	87.0	87.4	84.9	87.1	87.4	86.1
1981	91.1	92.1	87.0	90.1	90.6	87.9
1982	94.0	97.8	81.1	90.8	93.5	81.9
1983	108.4	112.6	93.7	107.5	111.3	94.4
1984	125.3	131.1	105.6	121.3	125.8	106.1
1985	128.3	136.1	105.6	129.4	137.8	104.3
1986	135.5	141.7	114.7	140.5	148.4	116.2
1987 [2]	142.2	150.2	116.4	149.2	160.1	117.8
Average annual percent change:						
1947-87	3.3	3.7	1.5	3.2	3.6	1.5
1982-87	8.2	8.6	7.1	10.0	11.0	7.2

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 150. Hydraulic cement (SIC 3241): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	86.9	126.4	130.3	109.6	125.4	129.3	109.6
1964	90.5	127.4	129.1	119.5	124.6	126.0	119.1
1965	91.5	125.0	126.5	118.4	124.2	125.7	118.4
1966	94.3	122.9	123.9	117.8	120.6	121.3	118.4
1967	90.3	117.5	116.2	114.2	117.2	118.1	114.3
1968	96.3	112.9	114.4	106.6	110.8	112.2	105.4
1969	97.4	112.8	113.9	107.5	109.4	110.9	103.5
1970	94.4	111.3	111.0	112.2	108.6	109.4	105.4
1971	99.5	106.5	106.7	104.7	103.5	104.5	100.0
1972	105.1	110.6	111.9	104.7	107.9	109.4	101.8
1973	108.9	109.2	110.3	103.8	106.8	107.7	103.5
1974	102.9	112.5	113.7	106.6	111.5	112.2	108.9
1975	86.6	102.2	101.5	104.7	103.2	102.7	105.4
1976	92.8	100.4	99.5	103.8	101.1	100.5	103.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.7	105.3	105.6	103.8	103.2	103.2	103.6
1979	107.3	111.8	113.1	106.6	109.4	110.4	105.4
1980	95.3	109.6	109.0	112.3	109.4	109.0	110.7
1981	91.1	100.0	98.9	104.7	101.1	100.5	103.6
1982	80.4	85.5	82.2	99.1	88.5	86.0	98.2
1983	89.3	82.4	79.3	95.3	83.1	80.2	94.6
1984	98.6	78.7	75.2	93.4	81.3	78.4	92.9
1985	98.7	76.9	72.5	95.3	76.3	71.6	94.6
1986	99.6	73.5	70.3	86.8	70.9	67.1	85.7
1987 [1]	98.8	69.5	65.8	84.9	66.2	61.7	83.9
Average annual percent change:							
1947-87	1.4	-2.0	-2.3	-.2	-1.8	-2.2	-.2
1982-87	4.0	-3.9	-4.2	-2.9	-5.5	-6.3	-3.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 151. Structural clay products (SIC 325): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	62.1	59.5	76.8	62.8	60.3	76.2
1964	66.3	64.2	78.0	69.0	67.1	77.6
1965	67.5	64.9	82.6	68.7	66.3	81.7
1966	68.8	66.1	84.1	70.3	67.8	83.1
1967	69.3	67.7	77.3	69.8	68.4	76.4
1968	73.7	72.4	80.3	74.9	73.7	80.6
1969	74.2	73.2	78.3	75.9	74.7	81.6
1970	78.2	79.7	71.8	79.9	80.9	75.6
1971	85.1	87.0	77.6	87.1	88.6	80.6
1972	89.2	87.3	92.4	89.7	88.8	94.2
1973	91.1	88.5	104.9	91.9	89.3	104.9
1974	93.1	91.2	102.1	94.0	92.8	99.6
1975	91.0	92.0	86.7	90.0	91.1	86.1
1976	94.9	96.1	89.3	93.0	93.9	89.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	100.8	111.2	103.9	102.4	111.0
1979	95.9	96.3	94.1	94.3	94.2	94.5
1980	97.6	101.0	84.6	96.7	99.8	85.0
1981	100.7	102.9	92.3	99.4	101.2	92.6
1982	102.6	106.7	87.6	101.1	104.9	87.6
1983	105.4	109.2	91.1	108.2	113.2	91.0
1984	111.3	110.9	113.7	112.5	112.1	114.0
1985	112.8	113.5	110.3	115.2	116.3	110.1
1986	115.6	118.1	105.9	117.5	120.4	106.2
1987 [2]	118.7	119.5	115.0	121.8	123.6	115.1
Average annual percent change:						
1958-87	2.7	3.0	1.4	2.7	3.0	1.4
1982-87	3.0	2.4	5.2	3.5	3.0	5.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 152. Structural clay products (SIC 325): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	90.5	145.7	152.1	117.8	144.0	150.0	118.8
1964	99.6	150.2	155.2	127.7	144.4	148.4	128.3
1965	101.9	150.9	156.9	123.3	148.3	153.8	124.7
1966	101.7	147.8	153.9	120.9	144.7	150.0	122.4
1967	93.5	135.0	138.1	120.9	133.9	136.6	122.4
1968	99.6	135.1	137.6	124.1	132.9	135.2	123.6
1969	100.8	135.8	137.7	127.1	132.8	135.0	123.6
1970	93.5	119.6	117.3	130.2	117.0	115.6	123.6
1971	96.8	113.8	111.3	124.7	111.2	109.3	120.1
1972	103.1	116.9	118.1	111.6	114.9	116.1	109.4
1973	104.9	115.1	118.5	100.0	114.2	117.5	100.0
1974	109.0	117.1	119.5	106.8	115.9	117.5	109.4
1975	93.1	102.3	101.2	107.4	103.5	102.2	109.4
1976	96.4	101.6	100.3	108.0	103.7	102.7	108.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.1	104.5	106.3	96.3	103.1	104.6	96.5
1979	102.2	106.6	108.1	108.6	108.4	108.5	108.2
1980	93.0	95.3	92.1	109.9	96.2	93.2	109.4
1981	86.0	85.4	83.6	93.2	86.5	85.0	92.9
1982	67.0	65.3	62.8	76.5	66.3	63.9	76.5
1983	78.2	74.2	71.6	85.8	72.3	69.1	85.9
1984	89.8	80.7	81.0	79.0	79.8	80.1	78.8
1985	91.9	81.5	81.0	83.3	79.8	79.0	83.5
1986	98.7	85.4	83.6	93.2	84.0	82.0	92.9
1987 [1]	104.3	87.9	87.3	90.7	85.6	84.4	90.6
Average annual percent change:							
1958-87	-.2	-2.8	-3.1	-1.5	-2.8	-3.1	-1.6
1982-87	8.7	5.6	6.2	3.3	5.1	5.6	3.3

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 153. Clay construction products (SIC 3251, 3253, 3259): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	60.9	58.8	73.5	62.2	60.3	73.0
1964	65.1	63.6	74.0	66.3	67.3	73.8
1965	66.6	64.6	78.5	68.1	66.4	78.2
1966	67.3	65.2	80.7	69.5	67.7	80.0
1967	68.2	66.9	75.4	69.7	68.6	74.7
1968	73.1	71.6	81.0	75.0	73.6	81.5
1969	72.3	71.2	78.5	74.9	73.7	80.9
1970	77.4	78.3	73.0	79.6	80.1	77.2
1971	86.4	87.2	82.5	89.3	90.2	86.2
1972	89.0	87.5	96.7	91.2	89.6	99.5
1973	90.6	88.3	104.0	91.5	89.2	104.2
1974	88.7	87.4	96.6	90.2	89.4	94.2
1975	89.1	89.9	86.0	89.5	90.5	84.8
1976	94.2	95.1	90.3	93.0	93.8	89.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.2	100.4	111.9	103.2	101.6	111.6
1979	91.6	92.3	87.7	91.8	92.7	88.3
1980	94.0	96.9	82.2	94.3	97.2	82.6
1981	97.3	99.8	86.7	96.3	98.5	87.3
1982	103.3	106.6	90.3	103.2	106.4	90.8
1983	101.1	104.8	86.0	104.8	110.0	85.7
1984	110.4	109.6	114.3	112.3	111.7	114.2
1985	112.6	112.7	112.0	116.0	116.8	112.3
1986	114.5	116.1	107.5	117.2	119.6	107.5
1987 [2]	116.2	117.0	112.4	119.8	121.6	112.4
Average annual percent change:						
1958-87	2.7	2.9	1.6	2.7	2.9	1.6
1982-87	2.8	2.3	5.1	3.2	2.8	5.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 154. Clay construction products (SIC 3251, 3253, 3259): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	98.6	162.0	167.6	134.2	158.6	163.6	135.0
1964	108.4	166.5	170.4	146.5	158.6	161.1	146.8
1965	109.5	164.3	169.4	139.5	160.7	165.0	140.1
1966	106.8	158.7	163.9	132.4	153.6	157.8	133.5
1967	98.5	144.5	147.3	130.7	141.4	143.5	131.8
1968	105.9	144.9	147.9	130.7	141.2	143.5	130.0
1969	103.9	143.8	145.9	132.4	138.6	140.9	128.5
1970	95.4	123.3	121.8	130.7	119.8	119.1	123.5
1971	102.1	118.2	117.1	123.7	114.3	113.2	118.4
1972	109.5	123.1	125.2	113.2	120.1	122.2	110.0
1973	109.4	120.6	123.9	105.2	119.5	122.7	105.0
1974	106.8	120.4	122.2	110.6	118.4	119.4	113.4
1975	90.5	101.6	100.7	105.2	101.1	100.0	106.7
1976	97.5	103.5	102.5	108.0	104.8	103.9	108.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.0	103.7	105.6	94.7	102.7	104.3	95.0
1979	100.0	109.2	108.3	114.0	108.9	107.9	113.3
1980	92.3	98.2	95.3	112.3	97.9	95.0	111.7
1981	82.9	85.2	83.1	95.6	86.1	84.2	95.0
1982	68.1	65.9	63.9	75.4	66.0	64.0	75.0
1983	80.0	79.1	76.3	93.0	76.3	72.7	93.3
1984	93.3	84.5	85.1	81.6	83.1	83.5	81.7
1985	99.2	88.1	88.0	86.6	85.5	84.9	88.3
1986	107.5	93.9	92.6	100.0	91.7	89.9	100.0
1987 [1]	112.4	96.7	96.1	100.0	93.8	92.4	100.0
Average annual percent change:							
1958-87	–4	-3.0	-3.2	-2.0	-3.0	-3.2	-2.0
1982-87	10.4	7.3	7.9	5.0	6.9	7.4	5.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 155. Brick and structural clay tile (SIC 3251): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	63.3	60.6	62.5	65.3	62.8	81.8
1964	68.7	66.2	65.9	72.0	69.9	85.6
1965	70.5	67.7	69.8	72.6	70.1	88.2
1966	71.4	68.3	92.8	74.4	71.7	91.0
1967	70.3	68.5	81.8	71.8	70.4	80.3
1968	75.0	73.1	87.3	76.5	74.8	86.7
1969	72.5	71.0	80.9	75.4	74.2	82.5
1970	81.1	81.1	81.5	82.4	81.7	86.3
1971	89.6	90.2	87.7	92.5	93.1	90.5
1972	91.5	89.5	103.4	94.5	92.6	105.0
1973	90.1	88.1	103.1	91.9	90.3	101.8
1974	92.5	90.6	104.6	94.2	92.9	101.7
1975	93.1	93.2	93.2	93.5	94.0	91.6
1976	102.2	103.6	96.8	99.6	100.1	95.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.2	94.6	105.3	96.9	95.3	105.1
1979	85.4	87.6	75.8	85.0	87.3	75.6
1980	84.9	90.4	84.6	84.3	89.8	84.5
1981	84.3	88.3	88.5	82.6	86.3	88.5
1982	88.6	92.9	72.1	88.2	92.4	72.4
1983	85.7	92.0	83.4	88.3	96.4	82.7
1984	93.4	93.8	91.4	94.4	95.1	90.6
1985	100.4	101.5	95.9	102.6	104.2	95.5
1986	98.9	101.0	89.3	101.6	104.5	89.6
1987 [2]	102.9	104.6	94.9	106.9	109.6	95.2
Average annual percent change:						
1958-87	1.8	2.2	(3)	1.8	2.1	(3)
1982-87	3.6	2.8	7.2	4.3	3.4	7.4

[1] The output measures underlying this output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 156. Brick and structural clay tile (SIC 3251): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	91.2	144.0	150.6	110.5	139.6	145.2	111.5
1964	102.7	149.5	155.2	119.5	142.6	147.0	120.0
1965	105.9	150.2	156.5	117.9	145.9	151.1	120.0
1966	106.7	149.5	156.2	115.0	143.5	148.8	117.2
1967	96.4	137.2	140.8	117.9	134.2	137.0	120.0
1968	101.8	135.4	139.0	116.4	132.8	135.8	117.2
1969	99.0	136.6	139.4	122.4	131.3	133.4	120.0
1970	93.7	115.5	115.5	115.0	113.7	114.7	108.6
1971	103.4	115.4	114.8	117.9	111.8	111.1	114.3
1972	111.1	121.4	124.1	107.4	117.6	120.0	105.9
1973	107.7	119.5	122.3	104.5	117.2	119.3	105.8
1974	107.6	116.3	118.7	102.9	114.2	115.8	105.8
1975	89.0	95.0	95.5	95.5	95.2	94.7	97.2
1976	98.3	96.2	94.9	101.5	98.7	97.5	102.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	106.1	107.9	97.0	105.4	107.1	97.1
1979	95.0	111.3	108.5	125.4	111.7	108.8	125.7
1980	83.0	97.8	91.8	126.4	98.5	92.4	126.6
1981	88.5	81.3	77.6	100.0	82.9	79.4	100.0
1982	53.8	60.7	57.9	74.6	61.0	58.2	74.3
1983	66.3	77.4	72.1	104.5	75.1	68.8	105.7
1984	77.8	83.3	82.9	85.1	82.4	81.8	85.7
1985	90.1	89.7	88.8	94.0	87.8	86.5	94.3
1986	94.7	95.8	93.8	106.0	93.2	90.6	105.7
1987 [1]	100.6	97.8	96.2	106.0	94.1	91.8	105.7
Average annual percent change:							
1958-87	-.9	-2.7	-3.0	-.9	-2.6	-3.0	-.9
1982-87	13.2	9.3	10.2	5.6	8.6	9.4	5.5

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 157. Ceramic wall and floor tile (SIC 3253): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction wor
Index:						
1963	60.2	59.5	63.0	58.5	59.1	61.0
1964	62.8	63.2	60.7	63.5	64.6	59.2
1965	64.1	63.5	66.8	64.2	64.1	64.8
1966	64.9	63.9	69.2	65.9	65.6	66.7
1967	69.3	69.3	69.1	70.1	70.6	68.0
1968	73.4	74.3	70.1	74.7	76.1	69.1
1969	72.9	73.3	70.7	73.4	74.0	71.3
1970	72.0	74.4	62.9	74.4	76.9	65.0
1971	78.6	78.8	77.9	79.6	79.3	80.6
1972	88.2	86.7	94.9	89.2	87.9	94.9
1973	92.0	89.7	103.1	91.3	88.9	102.8
1974	87.7	87.1	90.3	87.2	87.5	85.7
1975	89.0	91.4	79.8	87.9	90.6	77.9
1976	89.0	88.9	89.5	88.5	88.8	87.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	115.2	111.9	132.8	117.6	114.5	132.1
1979	111.6	108.7	126.5	113.5	110.7	126.5
1980	119.8	116.8	135.9	121.9	118.9	135.9
1981	125.9	124.1	134.2	125.8	123.8	134.5
1982	128.1	127.3	131.4	127.1	126.3	131.1
1983	126.2	122.1	147.6	130.7	127.3	147.3
1984	144.0	139.0	171.4	146.4	141.6	171.1
1985	131.1	127.3	150.2	134.7	131.4	150.2
1986 [2]	140.5	138.9	148.1	141.0	140.2	144.7
Average annual percent change:						
1958-86	3.9	3.8	4.2	3.9	3.9	4.3
1982-86	2.3	2.2	2.6	2.4	2.4	2.2

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Cen and the Bureau of Labor Statistics.

Table 158. Ceramic wall and floor tile (SIC 3253): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	97.7	162.4	164.1	155.2	164.1	165.2	160.1
1964	106.7	170.0	168.8	175.9	167.9	165.2	180.1
1965	103.7	161.8	163.4	155.2	161.5	161.9	160.1
1966	97.9	150.9	153.2	141.4	148.6	149.3	146.8
1967	95.3	137.6	137.6	137.9	135.9	135.0	140 [1]
1968	101.5	138.2	136.7	144.8	135.9	133.3	146.8
1969	95.1	130.5	129.7	134.5	129.5	128.6	133.3
1970	86.7	120.4	116.5	137.9	116.6	112.7	133.3
1971	80.6	102.5	102.3	103.4	101.2	101.6	100.0
1972	94.9	107.6	109.4	100.0	106.4	108.0	100.0
1973	96.0	104.4	107.0	93.1	105.2	108.0	93.4
1974	102.8	117.2	116.0	113.8	117.9	117.5	120.0
1975	93.5	105.1	102.3	117.2	106.4	103.2	120.0
1976	98.7	110.9	111.0	110.3	111.5	111.2	113.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	114.5	99.4	102.3	86.2	97.4	100.0	86.7
1979	126.5	113.4	116.4	100.0	111.5	114.3	100.0
1980	135.9	113.4	116.4	100.0	111.5	114.3	100.0
1981	143.5	114.0	115.6	106.9	114.1	115.9	106.7
1982	122.3	95.5	96.1	93.1	96.2	96.8	93.3
1983	137.4	108.9	112.5	93.1	105.1	107.9	93.3
1984	159.6	110.8	114.8	93.1	109.0	112.7	93.3
1985	150.2	114.6	118.0	100.0	111.5	114.3	100.0
1986 [2]	173.6	123.6	125.0	117.2	123.1	123.8	120.0
Average annual percent change:							
1958-86	1.8	-2.0	-1.9	-2.3	-2.0	-1.9	-2.4
1982-86	8.2	5.8	5.9	5.5	5.7	5.7	5.9

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

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Table 159. Clay refractories (SIC 3255): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	67.2	63.9	83.0	65.1	61.5	82.1
1964	72.0	68.6	88.0	71.4	67.9	87.3
1965	71.6	67.7	90.9	71.4	67.3	90.5
1966	75.6	72.0	93.4	73.8	70.0	91.1
1967	74.4	72.8	81.1	71.2	69.2	79.4
1968	77.0	77.5	75.3	74.9	74.7	75.5
1969	83.1	83.7	81.3	81.0	80.3	83.2
1970	82.1	86.7	69.0	81.9	85.2	71.9
1971	81.3	88.2	63.5	79.9	84.9	66.2
1972	86.5	89.7	76.6	85.4	87.5	78.3
1973	93.6	91.0	105.0	93.7	91.0	104.5
1974	107.5	104.6	120.1	105.9	103.4	115.2
1975	95.5	97.5	89.1	90.6	91.8	86.4
1976	97.1	100.2	87.8	92.5	94.3	86.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.5	101.8	110.4	105.7	104.4	110.4
1979	110.2	109.5	113.6	104.6	98.7	113.3
1980	109.6	116.0	91.1	104.1	108.5	91.2
1981	111.1	111.7	108.8	108.7	108.8	108.2
1982	100.0	107.3	80.1	94.2	99.7	79.2
1983	121.6	128.0	102.7	119.0	125.3	101.0
1984	115.1	116.1	111.9	113.3	114.3	110.0
1985	114.1	119.0	99.3	111.9	116.8	97.6
1986	122.9	132.5	97.3	119.5	128.5	96.1
1987 [2]	131.4	134.7	120.5	131.6	136.0	118.2
Average annual percent change:						
1958-87	2.8	3.2	1.0	3.0	3.5	1.0
1982-87	4.0	3.7	5.2	4.9	4.8	5.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 160. Clay refractories (SIC 3255): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	65.7	97.8	102.8	79.2	100.9	106.9	80.0
1964	73.3	101.8	106.8	83.3	102.7	108.0	84.0
1965	79.6	111.2	117.6	87.6	111.5	118.3	88.0
1966	87.5	115.7	121.6	93.7	118.5	125.0	96.0
1967	79.4	106.7	109.1	97.9	111.5	114.8	100.0
1968	81.5	105.9	105.1	108.3	108.8	109.1	108.0
1969	93.2	112.1	111.3	114.6	115.1	116.0	112.0
1970	89.1	108.5	102.8	129.2	108.8	104.6	124.0
1971	82.1	101.0	93.1	129.2	102.7	96.7	124.0
1972	84.6	97.8	94.3	110.5	99.1	96.7	108.0
1973	92.0	98.3	101.1	87.6	98.2	101.1	88.0
1974	115.2	107.2	110.1	95.9	108.8	111.4	100.0
1975	100.2	104.9	102.8	112.5	110.6	109.1	116.0
1976	93.3	96.1	93.1	106.3	100.9	98.9	108.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	110.4	106.7	108.5	100.0	104.4	105.7	100.0
1979	108.8	98.7	99.4	95.8	107.1	110.2	96.0
1980	94.9	86.6	81.8	104.2	91.2	87.5	104.0
1981	95.2	85.7	85.2	87.5	87.6	87.5	88.0
1982	63.4	63.4	59.1	79.2	67.3	63.6	80.0
1983	72.7	59.8	56.8	70.8	61.1	58.0	72.0
1984	79.2	68.8	68.2	70.8	69.9	69.3	72.0
1985	70.3	61.6	59.1	70.8	62.8	60.2	72.0
1986	73.0	59.4	55.1	75.0	61.1	56.8	76.0
1987 [1]	80.4	61.2	59.7	66.7	61.1	59.1	68.0
Average annual percent change:							
1958-87	.9	-1.8	-2.3	-.1	-2.0	-2.5	-.1
1982-87	3.1	-.9	-.5	-1.9	-1.7	-1.6	-1.8

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 161. Concrete products (SIC 3271, 3272): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	64.8	63.1	73.1	68.4	67.2	72.7
1964	68.7	67.2	75.6	72.9	72.0	75.5
1965	71.3	69.6	80.0	74.4	72.8	79.4
1966	75.7	75.2	80.1	77.5	76.9	79.2
1967	78.9	75.6	91.0	81.1	78.4	90.0
1968	85.2	81.9	96.9	88.3	85.6	97.3
1969	84.2	81.5	93.9	88.8	86.3	96.9
1970	82.3	79.6	92.1	86.9	83.7	97.5
1971	88.0	86.1	94.4	90.2	87.7	98.6
1972	89.7	87.9	95.4	91.9	90.1	97.7
1973	92.4	90.4	98.6	95.0	93.9	98.8
1974	93.7	91.1	102.9	94.9	93.1	100.2
1975	91.9	92.4	90.0	91.5	92.4	88.7
1976	95.0	94.6	96.0	96.5	96.6	95.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.6	97.5	98.1	97.4	97.2	98.0
1979	92.7	93.1	91.4	93.0	93.5	91.7
1980	90.4	93.5	82.0	90.5	93.5	82.6
1981	88.5	91.4	80.7	88.7	91.6	81.0
1982	91.0	93.8	83.5	90.4	93.0	83.8
1983	97.6	100.2	90.2	97.4	100.1	90.2
1984	99.2	102.7	90.1	99.8	103.4	90.4
1985	100.5	102.5	94.8	101.6	104.2	95.1
1986 [2]	105.9	107.2	102.4	107.7	109.6	102.6
Average annual percent change:						
1947-86	2.5	2.8	1.1	2.3	2.6	1.1
1982-86	3.4	2.9	4.7	4.0	3.8	4.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 162. Concrete products (SIC 3271, 3272): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	64.8	100.0	102.7	88.6	94.7	96.5	89.1
1964	70.6	102.8	105.0	93.4	96.9	98.0	93.5
1965	76.9	107.8	110.5	96.1	103.3	105.7	96.8
1966	81.9	108.2	108.9	102.2	105.7	106.5	103.4
1967	78.6	99.6	104.0	86.4	96.9	100.2	87.3
1968	85.5	100.4	104.4	88.2	96.8	99.9	87.9
1969	87.9	104.4	107.9	93.6	99.0	101.9	90.7
1970	91.4	111.0	114.8	99.2	105.2	109.2	93.7
1971	97.1	110.3	112.8	102.9	107.6	110.7	98.5
1972	103.5	115.4	117.8	108.5	112.6	114.9	105.9
1973	110.8	119.9	122.5	112.4	116.6	118.0	112.2
1974	99.8	106.5	109.6	97.0	105.2	107.2	99.6
1975	90.5	98.5	97.9	100.5	98.9	97.9	102.0
1976	92.6	97.5	97.9	96.5	96.0	95.9	96.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.8	104.3	104.4	103.8	104.5	104.7	103.9
1979	101.0	109.0	108.5	110.5	108.6	108.0	110.2
1980	91.0	100.7	97.3	111.0	100.6	97.3	110.2
1981	87.7	99.1	96.0	108.7	98.9	95.7	108.3
1982	80.1	88.0	85.4	95.9	88.6	86.1	95.6
1983	84.9	87.0	84.7	94.1	87.2	84.8	94.1
1984	91.3	92.0	88.9	101.3	91.5	88.3	101.0
1985	92.8	92.3	90.5	97.9	91.3	89.1	97.6
1986 [1]	101.6	95.9	94.8	99.2	94.3	92.7	99.0
Average annual percent change:							
1947-86	3.1	.6	.3	2.0	.8	.5	2.0
1982-86	5.8	2.3	2.8	1.1	1.7	2.0	1.1

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 163. Ready-mixed concrete (SIC 3273): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1963	85.8	88.5	72.0	83.9	81.4
1964	86.2	88.8	73.0	84.7	82.2
1965	90.3	91.1	79.0	87.5	86.7
1966	90.7	91.3	78.3	86.3	85.8
1967	95.0	96.2	81.5	85.8	84.7
1968	97.7	98.3	81.7	83.6	83.1
1969	93.7	97.2	82.8	88.4	85.2
1970	91.1	90.6	78.7	86.4	86.9
1971	97.2	93.1	81.3	83.6	87.3
1972	99.5	99.0	96.5	97.0	97.5
1973	103.5	101.4	99.7	96.3	98.3
1974	100.3	98.3	97.5	97.2	99.2
1975	97.5	93.1	88.2	90.5	94.7
1976	98.8	94.5	88.0	89.1	93.1
1977	100.0	100.0	100.0	100.0	100.0
1978	103.1	102.9	108.3	105.0	105.2
1979	99.9	98.4	109.7	109.8	111.5
1980	93.1	91.3	95.6	102.7	104.7
1981	95.4	93.5	91.3	95.7	97.6
1982	90.6	88.0	81.7	90.2	92.8
1983	93.7	93.1	88.7	94.7	95.3
1984	96.3	97.7	92.6	96.2	94.8
1985	97.4	98.3	93.4	95.9	95.0
1986 [1]	100.1	105.1	97.5	97.4	92.8
Average annual percent change:					
1958-86	.8	.7	1.9	1.1	1.1
1982-86	2.4	4.2	4.1	1.7	[2]

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census.

Table 164. Steel (SIC 331): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	80.6	77.0	96.1	79.7	76.4	93.0
1964	84.1	79.3	106.5	84.8	80.7	103.0
1965	87.5	82.6	110.7	88.3	84.0	107.1
1966	89.2	84.8	109.5	89.6	85.7	105.8
1967	86.4	83.6	98.0	85.5	83.1	94.8
1968	89.5	87.6	96.8	90.4	88.6	97.3
1969	90.0	87.7	96.9	91.5	89.6	99.3
1970	87.6	86.0	93.4	86.9	85.1	94.0
1971	91.9	91.0	95.4	90.4	89.0	95.4
1972	97.3	95.5	104.4	97.9	95.9	105.4
1973	106.6	103.3	119.9	109.5	106.6	121.2
1974	106.5	103.7	117.7	108.5	106.0	118.8
1975	93.3	93.5	92.4	91.3	91.3	91.5
1976	99.0	98.5	100.4	98.5	98.1	99.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.3	106.9	113.7	110.9	109.7	114.8
1979	106.9	105.1	113.2	108.6	107.0	114.0
1980	102.9	104.3	98.5	100.4	101.3	97.1
1981	112.0	112.9	109.0	111.5	112.5	108.3
1982	90.9	97.0	74.5	86.3	90.7	73.4
1983	116.8	122.5	100.7	115.1	119.4	101.9
1984	131.3	133.9	122.4	132.3	134.3	125.7
1985	139.5	142.8	129.0	141.8	144.7	132.3
1986	141.8	145.2	131.2	146.7	149.7	135.9
1987 [2]	151.7	156.8	135.8	163.0	168.2	146.7
Average annual percent change:						
1947-87	1.9	2.3	.3	2.0	2.4	.5
1982-87	9.6	8.9	11.6	12.0	11.6	13.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 165. Steel (SIC 331): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	84.7	105.1	110.0	88.1	106.3	110.8	91.1
1964	96.2	114.4	121.3	90.3	113.4	119.2	93.4
1965	104.6	119.6	126.7	94.5	118.4	124.5	97.7
1966	105.3	118.0	124.2	96.2	117.5	122.9	99.5
1967	97.9	113.3	117.1	99.9	114.5	117.8	103.3
1968	103.7	115.9	118.4	107.1	114.7	117.1	106.6
1969	106.3	118.1	121.2	107.5	116.2	118.7	107.0
1970	98.3	112.2	114.3	105.2	113.1	115.5	104.6
1971	93.5	101.7	102.8	98.0	103.4	105.1	98.0
1972	100.3	103.1	105.0	96.1	102.5	104.6	95.2
1973	119.4	112.0	115.6	99.6	109.0	112.0	98.5
1974	119.3	112.0	115.0	101.4	110.0	112.6	100.4
1975	90.3	96.8	96.6	97.7	98.9	98.9	98.7
1976	97.6	98.6	99.1	97.2	99.1	99.5	97.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	112.0	103.4	104.8	98.5	101.0	102.1	97.6
1979	111.7	104.5	106.3	98.7	102.9	104.4	98.0
1980	92.7	90.1	88.9	94.1	92.3	91.5	95.5
1981	101.8	90.9	90.2	93.4	91.3	90.5	94.0
1982	61.7	67.9	63.6	82.8	71.5	68.0	84.1
1983	70.8	60.6	57.8	70.3	61.5	59.3	69.5
1984	79.8	60.8	59.6	65.2	60.3	59.4	63.5
1985	77.4	55.5	54.2	60.0	54.6	53.5	58.5
1986	72.3	51.0	49.8	55.1	49.3	48.3	53.2
1987 [1]	79.2	52.2	50.5	58.3	48.6	47.1	54.0
Average annual percent change:							
1947-87	.3	-1.5	-1.9	(2)	-1.7	-2.0	-.1
1982-87	3.7	-5.3	-4.7	-7.1	-7.4	-7.0	-8.5

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Employment and hours based on data from the Bureau of Labor Statistics.

Table 166. Gray iron foundries (SIC 3321): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	70.7	69.1	82.8	72.2	70.2	84.6
1964	75.1	72.6	94.2	79.6	77.1	96.7
1965	78.8	76.2	98.8	84.1	81.5	101.0
1966	79.3	76.7	98.3	83.3	80.8	100.1
1967	75.1	73.3	87.2	75.8	73.8	88.6
1968	79.6	77.9	91.5	82.6	80.4	96.2
1969	83.8	81.6	99.1	86.7	84.3	101.9
1970	79.8	78.8	86.6	78.7	77.3	87.1
1971	85.6	84.7	91.2	84.4	83.4	90.1
1972	90.2	88.3	103.4	92.2	90.9	99.6
1973	94.5	92.1	110.8	96.9	94.9	107.8
1974	97.7	95.7	111.2	98.2	96.4	108.3
1975	97.0	96.9	97.3	94.0	93.6	95.5
1976	96.4	96.4	96.4	95.7	95.6	95.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	102.0	102.4	101.4	101.2	102.4
1979	96.8	98.1	90.2	94.7	95.6	90.7
1980	90.8	94.8	73.0	86.5	89.5	73.7
1981	92.7	95.8	78.2	88.6	90.8	78.5
1982	93.7	100.2	68.0	84.6	88.5	68.3
1983	98.3	102.1	80.3	93.9	97.0	80.3
1984	106.8	109.2	95.1	105.9	108.2	95.5
1985	104.2	107.1	90.1	103.9	106.8	90.6
1986	107.4	111.2	89.8	106.7	110.5	90.2
1987 [2]	104.8	108.3	88.0	106.6	110.8	88.5
Average annual percent change:						
1954-87	1.8	2.1	.5	1.8	2.0	.4
1982-87	2.3	1.8	4.6	4.4	4.4	4.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 167. Gray iron foundries (SIC 3321): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	62.7	88.7	90.8	75.7	86.8	89.3	74.1
1964	72.5	96.5	99.9	77.0	91.1	94.0	75.0
1965	81.7	103.7	107.2	82.7	97.1	100.3	80.9
1966	84.5	106.6	110.1	86.0	101.4	104.6	84.4
1967	75.3	100.3	102.7	86.4	99.4	102.1	85.0
1968	80.9	101.6	103.9	88.4	98.0	100.6	84.1
1969	89.9	107.3	110.2	90.7	103.7	106.6	88.2
1970	80.0	100.2	101.5	92.4	101.6	103.5	91.8
1971	80.6	94.2	95.2	88.4	95.5	96.6	89.5
1972	91.9	101.9	104.1	88.9	99.7	101.1	92.3
1973	106.3	112.5	115.4	95.9	109.7	112.0	98.6
1974	107.3	109.8	112.1	96.5	109.3	111.3	99.1
1975	93.4	96.3	96.4	96.0	99.4	99.8	97.8
1976	93.8	97.3	97.3	97.3	98.0	98.1	97.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.0	106.8	106.9	106.4	107.5	107.7	106.4
1979	103.8	107.2	105.8	115.1	109.6	108.6	114.5
1980	81.7	90.0	86.2	111.9	94.4	91.3	110.9
1981	82.0	88.5	85.6	104.9	92.6	90.3	104.5
1982	59.3	63.3	59.2	87.2	70.1	67.0	86.8
1983	62.1	63.2	60.8	77.3	66.1	64.0	77.3
1984	75.1	70.3	68.8	79.0	70.9	69.4	78.6
1985	66.3	63.6	61.9	73.6	63.8	62.1	73.2
1986	62.3	58.0	56.0	69.4	58.4	56.4	69.1
1987 [1]	61.5	58.7	56.8	69.9	57.7	55.5	69.5
Average annual percent change:							
1954-87	.9	-.9	-1.1	.4	-.8	-1.1	.5
1982-87	.2	-2.1	-1.6	-4.2	-4.1	-4.0	-4.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 168. Steel foundries (SIC 3324, 3325): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	91.2	87.7	111.2	92.3	88.1	113.6
1964	91.7	86.5	122.5	95.9	90.5	125.9
1965	94.1	88.8	126.4	99.4	93.9	129.1
1966	95.6	90.4	127.9	102.0	96.8	130.3
1967	93.5	90.2	111.8	95.8	92.2	113.8
1968	91.1	89.5	98.6	92.4	90.0	103.9
1969	93.3	90.5	107.7	95.8	92.4	110.9
1970	90.6	88.4	101.7	91.0	88.6	102.4
1971	94.9	94.5	96.6	94.1	93.7	95.7
1972	100.7	98.7	110.3	99.3	97.8	106.0
1973	101.9	99.1	116.9	102.8	100.2	113.6
1974	112.4	108.4	134.1	112.1	108.2	131.2
1975	107.5	105.0	120.1	107.9	105.6	118.6
1976	105.7	105.3	107.3	104.4	103.7	106.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.4	97.4	103.1	97.9	96.7	103.1
1979	100.6	97.9	113.7	101.5	98.8	114.1
1980	99.8	99.7	100.2	97.8	97.0	101.3
1981	91.6	93.0	86.3	89.4	90.1	86.7
1982	89.0	95.4	69.2	82.7	86.7	69.6
1983	89.9	97.3	67.5	86.3	92.7	67.8
1984	98.8	100.8	90.9	98.9	100.9	91.3
1985	95.6	98.7	83.7	96.4	99.8	84.2
1986	100.3	105.6	82.6	99.0	104.1	83.0
1987 [2]	94.3	97.1	83.8	95.5	99.0	83.9
Average annual percent change:						
1954-87	.7	1.0	-.5	.6	.9	-.6
1982-87	1.7	.9	4.3	3.2	2.9	4.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 169. Steel foundries (SIC 3324, 3325): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	80.3	88.0	91.6	72.2	87.0	91.1	70.7
1964	91.0	99.2	105.1	74.3	94.9	100.6	72.3
1965	99.7	106.0	112.3	78.9	100.3	106.2	77.2
1966	110.6	115.7	122.4	86.5	108.4	114.3	84.9
1967	101.5	108.5	112.5	90.8	105.9	110.1	89.2
1968	94.2	103.4	105.2	95.5	101.9	104.7	90.7
1969	101.5	108.8	112.1	94.2	106.0	109.6	91.5
1970	85.1	93.9	96.3	83.7	93.5	96.1	83.1
1971	81.7	86.1	86.5	84.6	86.8	87.2	85.4
1972	88.1	87.5	89.3	79.9	88.7	90.1	83.1
1973	95.5	93.7	96.4	81.7	92.9	95.3	83.9
1974	114.0	101.4	105.2	85.0	101.7	105.4	86.9
1975	107.6	100.1	102.5	89.6	99.7	101.9	90.7
1976	100.2	94.8	95.2	93.4	96.0	96.6	93.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.9	105.6	106.7	100.8	106.1	107.5	100.8
1979	119.4	118.7	121.9	105.0	117.6	120.8	104.6
1980	115.3	115.5	115.6	115.1	117.9	118.9	113.8
1981	95.4	104.1	102.6	110.5	106.7	105.9	110.0
1982	68.0	76.4	71.3	98.3	82.2	78.4	97.7
1983	53.7	59.7	55.2	79.5	62.2	57.9	79.2
1984	63.9	64.7	63.4	70.3	64.6	63.3	70.0
1985	60.9	63.7	61.7	72.8	63.2	61.0	72.3
1986	58.1	57.9	55.0	70.3	58.7	55.8	70.0
1987 [1]	57.5	61.0	59.2	68.6	60.2	58.1	68.5
Average annual percent change:							
1954-87	.1	-.6	-.8	.5	-.5	-.8	.7
1982-87	-1.8	-3.5	-2.7	-5.9	-4.9	-4.6	-5.9

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 170. Steel foundries, not elsewhere classified (SIC 3325): Indexes of output per employee hour and output per employee, 1972–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	100.1	97.6	113.4	99.1	96.9	109.0
1973	100.9	97.8	117.5	102.1	99.6	114.1
1974	114.0	110.3	134.4	113.7	110.1	131.2
1975	107.7	105.3	120.2	108.7	106.6	118.6
1976	104.5	104.3	105.5	103.3	102.9	105.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.7	97.8	102.4	97.9	96.9	102.4
1979	100.4	97.6	115.5	101.1	98.0	116.0
1980	99.8	99.7	100.4	96.6	95.5	101.3
1981	90.0	90.7	86.9	87.0	87.0	87.3
1982	88.4	95.1	67.1	80.2	84.0	67.3
1983	90.2	98.5	65.5	85.3	92.1	65.6
1984	103.5	105.8	93.8	103.5	105.8	94.4
1985	101.0	104.5	87.7	99.5	102.7	87.7
1986	104.3	108.6	88.2	101.9	105.8	88.2
1987 [2]	101.9	103.7	94.1	102.5	104.6	94.8
Average annual percent change:						
1972-87	-.4	.1	-2.8	-.6	-.1	-2.6
1982-87	3.3	2.1	7.5	5.0	4.3	7.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 171. Steel foundries, not elsewhere classified (SIC 3325): Indexes of output, employee hours, and employees, 1972–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	84.4	84.3	86.5	74.4	85.2	87.1	77.4
1973	91.5	90.7	93.6	77.9	89.6	91.9	80.2
1974	108.9	95.5	98.7	81.0	95.8	98.9	83.0
1975	108.5	100.7	103.0	90.3	99.8	101.8	91.5
1976	99.6	95.3	95.5	94.4	96.4	96.8	94.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.4	103.8	104.7	100.0	104.6	105.7	100.0
1979	113.8	113.3	116.6	98.5	112.6	116.1	98.1
1980	107.1	107.3	107.4	106.7	110.9	112.2	105.7
1981	85.6	95.1	94.4	98.5	98.4	98.4	98.1
1982	54.0	61.1	56.8	80.5	67.3	64.3	80.2
1983	39.6	43.9	40.2	60.5	46.4	43.0	60.4
1984	47.2	45.6	44.6	50.3	45.6	44.6	50.0
1985	41.4	41.0	39.6	47.2	41.6	40.3	47.2
1986	36.6	35.1	33.7	41.5	35.9	34.6	41.5
1987 [1]	36.7	36.0	35.4	39.0	35.8	35.1	38.7
Average annual percent change:							
1972-87	-7.5	-7.1	-7.6	-4.8	-6.9	-7.3	-5.0
1982-87	-6.4	-9.3	-8.2	-12.9	-10.9	-10.2	-12.9

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 172. Primary copper, lead, and zinc (SIC 3331, 3332, 3333): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	74.7	71.3	92.9	77.0	73.3	95.5
1964	77.6	73.8	99.0	79.2	74.9	102.3
1965	80.0	75.8	104.6	83.2	78.4	107.8
1966	79.0	74.8	103.6	82.9	78.5	106.1
1967	66.6	67.0	64.8	68.6	69.2	66.3
1968	78.5	75.6	93.1	80.9	77.4	98.0
1969	80.7	76.3	106.5	83.3	78.7	108.7
1970	78.1	74.6	96.5	80.8	77.3	98.4
1971	81.5	79.9	88.8	83.0	81.5	89.5
1972	90.9	86.7	114.0	92.3	88.4	112.0
1973	94.8	91.5	110.9	95.0	92.0	109.3
1974	86.0	84.8	91.3	87.4	86.8	90.0
1975	85.3	86.4	80.7	85.6	87.2	80.5
1976	96.0	96.2	95.1	96.6	97.0	94.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.5	95.8	99.7	97.7	97.3	99.7
1979	106.5	105.1	112.6	106.7	105.1	113.4
1980	103.7	106.1	94.8	101.2	102.6	96.3
1981	118.6	121.4	108.4	118.1	120.8	109.0
1982	128.0	131.8	114.4	130.7	135.0	115.8
1983	141.2	142.6	135.3	145.1	147.1	137.8
1984	148.0	155.1	124.3	151.5	159.3	126.9
1985	181.5	194.7	141.4	182.9	196.9	142.8
1986	210.8	212.1	207.5	209.5	209.5	209.5
1987 [2]	221.1	207.3	305.8	224.5	210.9	300.8
Average annual percent change:						
1947-87	3.1	3.3	1.8	2.9	3.1	1.7
1982-87	12.6	11.1	19.8	12.1	10.5	19.2

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 173. Primary copper, lead, and zinc (SIC 3331, 3332, 3333): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	97.5	130.5	136.8	104.9	126.7	133.0	102.1
1964	102.4	131.9	138.7	103.4	129.3	136.8	100.1
1965	108.1	135.1	142.7	103.3	130.0	137.8	100.3
1966	111.2	140.7	148.7	107.3	134.1	141.6	104.8
1967	76.1	114.3	113.6	117.4	110.9	109.9	114.7
1968	100.5	128.1	133.0	108.0	124.3	129.8	102.5
1969	122.1	151.3	160.1	114.7	146.5	155.2	112.3
1970	122.4	156.7	164.0	126.8	151.4	158.4	124.4
1971	111.3	136.6	139.3	125.4	134.1	136.6	124.4
1972	120.2	132.2	138.6	105.4	130.2	135.9	107.3
1973	122.8	129.6	134.2	110.7	129.2	133.5	112.3
1974	112.0	130.2	132.0	122.7	128.2	129.1	124.4
1975	100.1	117.4	115.8	124.1	116.9	114.8	124.4
1976	106.6	111.0	110.8	112.1	110.4	109.9	112.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.7	103.3	104.1	100.0	102.0	102.5	100.0
1979	105.1	98.7	100.0	93.3	98.5	100.0	92.7
1980	82.2	79.3	77.5	86.7	81.2	80.1	85.4
1981	98.3	82.9	81.0	90.7	83.2	81.4	90.2
1982	76.3	59.6	57.9	66.7	58.4	56.5	65.9
1983	74.0	52.4	51.9	54.7	51.0	50.3	53.7
1984	71.2	48.1	45.9	57.2	47.0	44.7	56.1
1985	69.7	38.4	35.8	49.3	38.1	35.4	48.8
1986	66.4	31.5	31.3	32.0	31.7	31.7	31.7
1987 [1]	73.4	33.2	35.4	24.0	32.7	34.8	24.4
Average annual percent change:							
1947-87	-.1	-3.1	-3.3	-1.9	-2.9	-3.2	-1.8
1982-87	-1.5	-12.5	-11.4	-17.8	-12.2	-10.9	-17.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 174. Primary copper (SIC 3331): Indexes of output per employee hour and output per employee, 1963-87

(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	75.4	71.7	98.3	78.8	75.0	100.7
1964	80.2	76.4	103.0	81.9	77.7	105.8
1965	81.9	76.9	116.3	86.2	80.9	119.0
1966	79.9	75.9	104.7	84.9	80.9	106.7
1967	69.0	70.4	63.3	69.9	71.3	64.5
1968	82.3	79.9	94.7	84.0	80.8	100.6
1969	82.6	78.4	108.7	85.1	80.6	111.1
1970	79.8	76.6	97.9	83.6	80.7	99.1
1971	81.9	80.7	87.2	82.8	81.9	86.9
1972	87.0	83.4	107.0	88.5	85.6	103.8
1973	90.6	87.5	107.1	93.3	91.0	104.5
1974	81.3	81.5	80.5	82.5	83.5	78.8
1975	83.0	85.3	74.0	84.4	87.5	73.4
1976	95.2	96.6	88.7	97.2	99.5	88.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.4	98.2	105.1	101.4	100.6	104.8
1979	113.3	111.3	123.6	115.4	113.3	124.8
1980	105.3	103.6	89.6	101.5	104.5	90.7
1981	124.4	126.3	116.3	126.8	129.2	117.7
1982	128.5	132.1	114.2	132.8	138.2	113.2
1983	138.3	140.5	130.3	144.0	147.2	131.4
1984	151.9	158.1	129.0	159.2	168.0	130.2
1985	189.8	204.5	143.3	195.2	213.4	142.7
1986	229.2	234.7	209.5	229.2	233.9	213.4
1987 [2]	228.2	219.7	271.7	234.5	226.2	274.6
Average annual percent change:						
1947-87	2.8	3.1	1.3	2.6	2.9	1.2
1982-87	14.1	13.2	18.2	13.5	12.4	18.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 175. Primary copper (SIC 3331): Indexes of output, employee hours, and employees, 1963-87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	90.0	119.3	125.5	91.6	114.2	120.0	89.4
1964	93.1	116.1	121.9	90.4	113.7	119.8	88.0
1965	100.0	122.1	130.1	86.0	116.0	123.6	84.0
1966	102.4	128.2	135.0	97.8	120.6	126.5	96.0
1967	61.9	89.7	87.9	97.8	88.6	86.8	96.0
1968	88.5	107.5	110.7	93.5	105.4	109.5	88.0
1969	111.1	134.5	141.7	102.2	130.6	137.8	100.0
1970	114.9	144.0	150.0	117.4	137.5	142.4	115.9
1971	104.3	127.4	129.2	119.6	126.0	127.3	120.0
1972	116.3	133.7	139.4	108.7	131.4	135.9	112.0
1973	121.1	133.7	138.4	113.1	129.8	133.1	115.9
1974	110.3	135.7	135.4	137.0	133.7	132.1	139.9
1975	99.8	120.3	117.0	134.8	118.3	114.1	136.0
1976	106.1	111.5	109.8	119.6	109.2	106.6	120.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.6	101.2	102.4	95.7	99.2	100.0	96.0
1979	104.8	92.5	94.2	84.8	90.8	92.5	84.0
1980	79.8	75.8	72.8	89.1	78.6	76.4	88.0
1981	103.6	83.3	82.0	89.1	81.7	80.2	88.0
1982	77.0	59.9	58.3	67.4	58.0	55.7	68.0
1983	73.6	53.2	52.4	56.5	51.1	50.0	56.0
1984	72.9	48.0	46.1	56.5	45.8	43.4	56.0
1985	68.5	36.1	33.5	47.8	35.1	32.1	48.0
1986	68.3	29.8	29.1	32.6	29.8	29.2	32.0
1987 [1]	76.9	33.7	35.0	28.3	32.8	34.0	28.0
Average annual percent change:							
1947-87	.6	-2.2	-2.5	-.8	-2.0	-2.3	-.7
1982-87	-.8	-13.1	-12.4	-16.1	-12.7	-11.8	-16.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 176. Primary aluminum (SIC 3334): Indexes of output per employee hour and output per employee, 1963–87
(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	81.0	80.9	81.1	82.6	82.6	82.6
1964	83.4	81.8	90.0	81.3	78.8	92.2
1965	85.4	84.1	90.7	86.0	84.4	92.4
1966	88.3	87.3	93.0	90.1	89.2	94.5
1967	87.6	86.7	91.0	88.0	86.9	92.3
1968	81.9	82.0	81.2	82.5	81.8	85.3
1969	90.0	89.0	94.5	91.5	90.2	96.4
1970	92.5	92.2	94.0	92.3	91.7	94.2
1971	100.7	101.7	98.7	99.3	100.2	95.6
1972	99.9	101.3	94.4	97.5	99.5	90.5
1973	99.4	97.8	106.6	99.2	98.0	103.9
1974	110.8	109.1	118.8	109.0	107.4	115.4
1975	96.2	100.1	82.6	95.1	99.4	81.3
1976	101.4	102.1	98.4	101.1	101.9	98.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.6	98.6	103.8	101.9	101.3	104.0
1979	99.7	99.2	102.1	100.5	100.2	101.9
1980	100.0	102.3	91.6	98.5	100.3	92.3
1981	103.8	107.6	90.4	102.9	106.7	90.3
1982	103.0	112.0	76.7	99.3	107.2	76.9
1983	111.5	115.8	96.8	108.8	112.4	96.3
1984	125.4	126.2	122.5	126.6	127.5	123.0
1985	125.4	129.0	112.3	123.4	126.7	112.0
1986	134.0	140.4	112.7	124.7	128.2	112.5
1987 [2]	143.5	150.1	120.7	137.4	142.5	120.8
Average annual percent change:						
1947-87	3.1	3.3	2.3	2.9	3.0	2.2
1982-87	6.5	6.1	7.8	5.9	5.3	7.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 177. Primary aluminum (SIC 3334): Indexes of output, employee hours, and employees, 1963–87
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	52.4	64.7	64.8	64.6	63.4	63.4	63.4
1964	57.7	69.2	70.5	64.1	71.0	73.2	62.6
1965	62.1	72.7	73.8	68.5	72.2	73.6	67.2
1966	66.6	75.4	76.3	71.6	73.9	74.7	70.5
1967	73.2	83.6	84.4	80.4	83.2	84.2	79.3
1968	72.1	88.0	87.9	88.8	87.4	88.1	84.5
1969	83.1	92.3	93.4	87.9	90.8	92.1	86.2
1970	86.1	93.1	93.4	91.6	93.3	93.9	91.4
1971	84.0	83.4	82.6	86.9	84.6	83.8	87.9
1972	87.3	87.4	86.2	92.5	89.5	87.7	96.5
1973	96.7	97.3	96.9	90.7	97.5	98.7	93.1
1974	105.5	95.2	96.7	88.8	96.8	98.2	91.4
1975	84.1	87.4	84.0	101.8	88.4	84.6	103.4
1976	92.9	91.6	91.0	94.4	91.9	91.2	94.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.8	106.2	107.3	101.9	103.8	104.4	101.7
1979	110.7	111.0	111.6	108.4	110.1	110.5	108.6
1980	113.0	113.0	110.5	123.4	114.7	112.7	122.4
1981	109.0	105.0	101.3	120.6	105.9	102.2	120.7
1982	79.5	77.2	71.0	103.7	80.1	74.1	103.4
1983	81.4	73.0	70.3	84.1	74.8	72.4	84.5
1984	99.6	79.4	78.9	81.3	78.7	78.1	81.0
1985	85.0	67.8	65.9	75.7	68.9	67.1	75.9
1986	73.7	55.0	52.5	65.4	59.1	57.5	65.5
1987 [1]	81.2	56.6	54.1	67.3	59.1	57.0	67.2
Average annual percent change:							
1947-87	4.9	1.5	1.3	2.4	1.8	1.6	2.5
1982-87	-1.0	-7.1	-6.7	-8.2	-6.5	-6.0	-8.2

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Mines, U.S. Department of the Interior; and the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 178. Copper rolling and drawing (SIC 3351): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	74.0	71.3	86.5	74.7	71.3	88.3
1964	81.5	78.6	95.3	83.0	79.4	97.9
1965	86.1	82.6	103.0	87.9	83.9	105.0
1966	91.0	86.6	113.8	94.5	89.7	115.3
1967	77.3	75.9	83.5	75.3	72.9	85.0
1968	80.3	79.5	83.4	79.4	77.3	87.7
1969	85.6	83.9	92.6	86.5	84.2	95.2
1970	76.8	76.9	76.3	74.3	73.8	78.5
1971	85.8	84.9	89.2	83.7	82.7	87.6
1972	88.0	85.3	100.0	88.5	86.5	96.0
1973	93.2	90.0	108.3	94.1	91.2	105.2
1974	85.2	84.2	89.7	84.5	83.7	87.3
1975	76.8	80.4	65.5	72.5	75.2	64.6
1976	85.1	85.6	87.8	85.5	85.1	87.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.9	99.4	101.8	99.3	98.8	101.4
1979	98.1	97.3	101.7	96.3	94.9	101.6
1980	94.1	96.1	87.2	92.1	93.5	87.5
1981	97.9	100.1	90.1	94.5	95.8	90.4
1982	106.0	112.9	85.8	98.1	102.3	86.0
1983	121.1	125.9	105.4	116.1	119.5	105.2
1984	128.1	128.6	126.2	128.7	129.4	126.5
1985	122.0	124.5	113.6	118.7	120.2	113.9
1986	127.2	130.0	117.6	126.4	129.0	118.0
1987 [2]	139.8	141.0	135.0	141.7	143.8	135.0
Average annual percent change:						
1958-87	2.5	2.7	1.7	2.4	2.7	1.6
1982-87	4.3	3.4	7.4	5.9	5.5	7.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Copper Development Association Inc., the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 179. Copper rolling and drawing (SIC 3351): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	92.8	125.4	130.1	107.3	124.3	130.1	105.1
1964	104.7	128.4	133.2	109.9	126.1	131.8	107.0
1965	110.9	128.8	134.2	107.7	126.1	132.2	105.6
1966	123.4	135.6	142.5	108.4	130.6	137.5	107.0
1967	96.9	125.3	127.7	116.0	128.7	133.0	114.0
1968	101.2	126.1	127.3	121.3	127.4	130.9	115.4
1969	113.8	133.0	135.6	122.9	131.5	135.1	119.6
1970	92.6	120.6	120.4	121.3	124.6	125.5	121.1
1971	98.7	115.0	116.2	110.7	117.9	119.4	112.7
1972	106.8	121.4	125.2	106.8	120.7	123.5	111.2
1973	119.9	128.6	133.2	110.7	127.4	131.4	114.0
1974	102.0	119.7	121.2	113.7	120.7	121.8	116.9
1975	74.5	97.0	92.7	113.7	102.8	99.1	115.4
1976	93.1	108.1	108.7	106.0	108.9	109.4	107.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.7	105.8	106.3	103.8	106.4	107.0	104.2
1979	110.2	112.3	113.3	108.4	114.4	116.1	108.5
1980	91.2	96.9	94.9	104.6	99.0	97.5	104.2
1981	94.2	96.2	94.1	104.6	99.7	98.3	104.2
1982	72.7	68.6	64.4	84.7	74.1	71.1	84.5
1983	84.5	69.8	67.1	80.2	72.8	70.7	80.3
1984	96.3	75.2	74.9	76.3	74.8	74.4	76.1
1985	85.0	69.7	68.3	74.8	71.6	70.7	74.6
1986	88.0	69.2	67.7	74.8	69.6	68.2	74.6
1987 [1]	96.9	69.3	68.7	71.8	68.4	67.4	71.8
Average annual percent change:							
1958-87	.2	-2.3	-2.5	-1.5	-2.2	-2.4	-1.4
1982-87	4.2	-.1	.7	-3.0	-1.6	-1.2	-3.0

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Copper Development Association Inc., the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 180. Aluminum rolling and drawing (SIC 3353, 3354, 3355): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	51.5	51.8	49.9	52.9	53.5	51.1
1964	54.8	55.2	53.4	56.7	57.1	54.8
1965	60.0	60.0	60.5	63.1	63.5	61.7
1966	60.4	59.6	64.1	63.4	63.0	65.2
1967	59.8	60.0	58.7	60.8	61.0	59.7
1968	62.4	63.5	58.1	62.8	63.3	61.0
1969	64.1	64.8	60.9	65.5	66.3	62.5
1970	66.0	68.6	56.5	64.6	67.0	56.9
1971	72.5	74.9	63.7	70.0	72.1	62.8
1972	85.1	84.7	86.4	85.8	86.5	83.3
1973	94.0	92.8	99.5	95.5	95.2	96.7
1974	96.4	96.1	97.3	94.9	94.9	94.8
1975	87.5	92.5	70.9	82.6	86.8	69.8
1976	101.7	102.7	97.6	100.3	101.2	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	104.2	102.6	102.5	102.6	102.4
1979	100.3	101.2	96.5	100.2	101.2	96.6
1980	100.0	103.6	87.0	98.1	101.3	87.5
1981	96.8	100.6	83.0	95.2	98.8	83.4
1982	99.2	105.2	79.4	94.8	99.8	79.6
1983	110.4	113.7	98.2	108.3	111.2	98.2
1984	116.2	118.1	108.1	115.1	117.1	108.3
1985	115.9	118.5	106.0	116.3	119.2	106.1
1986	125.0	129.8	108.0	124.0	128.9	108.3
1987 [2]	141.6	145.2	128.0	138.0	140.6	128.4
Average annual percent change:						
1958-87	4.3	4.4	3.9	4.1	4.1	3.8
1982-87	6.3	5.9	7.9	6.8	6.4	7.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 181. Aluminum rolling and drawing (SIC 3353, 3354, 3355): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	45.9	69.1	88.6	91.9	86.7	85.8	89.9
1964	50.8	92.7	92.1	95.1	89.6	88.9	92.7
1965	58.0	96.6	96.7	95.9	91.9	91.4	94.0
1966	64.2	106.3	107.8	100.2	101.2	101.9	98.5
1967	59.7	99.9	99.5	101.7	98.2	97.8	100.0
1968	66.2	106.1	104.3	114.0	105.4	104.6	108.6
1969	71.3	111.3	110.0	117.0	108.9	107.6	114.1
1970	67.1	101.7	97.8	118.7	103.8	100.2	118.0
1971	72.1	99.5	96.3	113.1	103.0	100.0	114.8
1972	87.2	102.5	102.9	100.9	101.6	100.8	104.7
1973	104.2	110.9	112.3	104.7	109.1	109.4	107.8
1974	99.3	103.0	103.3	102.1	104.6	104.6	104.7
1975	69.8	79.8	75.5	98.4	84.5	80.4	100.0
1976	93.9	92.3	91.4	96.2	93.6	92.8	96.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	110.4	106.2	105.9	107.5	107.7	107.6	107.8
1979	108.7	108.4	107.4	112.7	108.5	107.4	112.5
1980	102.5	102.5	98.9	117.8	104.5	101.2	117.2
1981	96.4	99.6	95.8	116.1	101.3	97.6	115.6
1982	84.5	85.2	80.3	106.4	89.1	84.7	106.2
1983	97.4	88.2	85.7	99.2	89.9	87.6	99.2
1984	104.9	90.3	88.8	97.0	91.1	89.6	96.9
1985	107.8	93.0	91.0	101.7	92.7	90.4	101.6
1986	112.5	90.0	86.7	104.2	90.7	87.3	103.9
1987 [1]	126.3	89.2	87.0	98.7	91.5	89.8	98.4
Average annual percent change:							
1958-87	4.4	.1	(2)	.5	.4	.3	.6
1982-87	7.3	.9	1.3	-.5	.5	.8	-.6

[1] Preliminary.
[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 182. Metal cans (SIC 3411): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	67.0	65.4	78.9	67.2	65.1	80.6
1964	68.5	66.9	79.1	69.7	67.9	81.1
1965	70.3	69.5	75.6	73.4	72.7	77.2
1966	72.2	70.1	87.6	72.5	70.0	89.1
1967	74.7	72.6	90.8	76.3	73.8	92.3
1968	78.1	75.9	94.9	80.0	77.6	95.1
1969	80.0	78.2	93.4	80.2	77.7	96.3
1970	78.8	77.5	87.6	79.5	77.3	93.2
1971	78.5	77.7	83.8	77.4	75.9	86.1
1972	80.8	79.3	91.3	80.5	78.9	90.3
1973	81.6	79.8	95.0	82.3	80.1	96.0
1974	84.7	84.2	87.6	84.4	83.4	90.0
1975	87.0	87.9	81.5	86.5	87.2	83.0
1976	93.4	93.9	90.3	92.5	92.5	91.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.3	102.6	100.4	100.8	100.9	100.3
1979	103.6	104.1	101.2	103.3	103.6	101.6
1980	102.6	104.0	94.8	102.2	103.6	95.6
1981	108.1	110.5	95.5	106.5	108.9	95.5
1982	118.5	120.5	107.5	112.7	113.5	108.1
1983	120.5	122.0	112.0	116.2	117.1	112.0
1984	123.0	124.0	117.2	120.4	120.9	117.8
1985	125.6	126.1	122.6	122.7	122.7	122.6
1986	126.0	126.8	121.1	123.3	123.7	121.8
1987 [2]	134.3	136.1	124.1	132.1	133.7	124.8
Average annual percent change:						
1947-87	2.6	2.7	1.9	2.6	2.7	1.8
1982-87	2.3	2.1	2.9	2.9	2.9	2.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Can Manufacturing Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 183. Metal cans (SIC 3411): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	59.8	89.2	91.5	75.8	89.0	91.9	74.2
1964	64.2	93.7	95.9	81.2	92.1	94.6	79.2
1965	67.3	95.7	96.9	89.0	91.7	92.6	87.2
1966	71.2	98.6	101.5	81.3	98.2	101.7	79.9
1967	76.9	102.9	105.9	84.7	100.8	104.2	83.3
1968	85.2	109.1	112.2	89.8	106.5	109.8	89.6
1969	87.3	109.1	111.7	93.5	108.9	112.3	90.7
1970	93.2	118.3	120.3	106.4	117.2	120.5	100.0
1971	88.9	113.2	114.4	106.1	114.8	117.1	103.2
1972	92.2	114.1	116.3	101.0	114.5	116.9	102.1
1973	96.0	117.6	120.3	101.1	116.7	119.9	100.0
1974	97.5	115.1	115.8	111.3	115.5	116.9	108.3
1975	90.7	104.3	103.2	111.3	104.8	104.0	109.3
1976	94.4	101.1	100.5	104.5	102.1	102.0	103.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.3	97.1	96.8	98.9	98.5	98.4	99.0
1979	99.5	96.0	95.6	98.3	96.3	96.0	97.9
1980	91.6	89.3	88.1	96.6	89.6	88.4	95.8
1981	89.6	82.9	81.1	93.8	84.1	82.3	93.8
1982	92.3	77.9	76.6	85.9	81.9	81.3	85.4
1983	89.8	74.5	73.6	80.2	77.3	76.7	80.2
1984	92.0	74.8	74.2	78.5	76.4	76.1	78.1
1985	90.7	72.2	71.9	74.0	73.9	73.9	74.0
1986	86.2	68.4	68.0	71.2	69.9	69.7	70.8
1987 [1]	89.7	66.8	65.9	72.3	67.9	67.1	71.9
Average annual percent change:							
1947-87	-.5	-.1	-.2	.3	-.1	-.2	.7
1982-87	-.8	-3.0	-2.9	-3.6	-3.6	-3.6	-3.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Can Manufacturing Association, the Bureau of the Census, and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 184. Hand and edge tools (SIC 3423): Indexes of output per employee hour and output per employee, 1963–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	84.0	85.1	80.1	84.9	85.7	82.1
1964	86.1	87.0	82.9	88.4	89.4	85.1
1965	91.2	91.1	91.3	93.5	93.5	93.4
1966	88.8	87.6	93.8	93.4	93.0	95.5
1967	93.9	92.2	101.0	95.9	94.2	102.8
1968	95.5	94.2	100.9	97.1	96.0	101.5
1969	97.2	96.3	101.0	99.1	97.9	104.1
1970	91.0	90.8	92.0	93.1	91.9	98.0
1971	94.4	93.6	98.0	96.0	94.8	100.6
1972	101.2	99.9	106.2	101.8	100.9	104.8
1973	101.8	101.4	103.4	102.7	102.2	104.7
1974	96.9	96.2	99.4	97.4	96.2	102.4
1975	93.9	94.5	91.5	93.7	93.5	93.3
1976	97.6	98.4	94.8	97.0	97.3	96.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.4	98.6	107.6	100.7	99.0	107.6
1979	103.9	104.8	100.4	102.8	103.3	100.7
1980	98.4	102.3	85.7	94.6	97.1	86.4
1981	95.2	97.4	87.5	94.4	96.3	88.0
1982	92.8	100.1	72.3	88.6	94.3	72.6
1983	89.3	95.6	71.2	86.4	91.6	71.4
1984	90.1	94.6	75.9	89.4	93.8	76.1
1985	90.6	94.9	77.0	87.7	91.1	77.3
1986 [2]	89.8	93.9	76.7	90.0	94.3	77.1
Average annual percent change:						
1958-86	.7	.8	.1	.5	.6	(3)
1982-86	-.5	-1.3	2.0	.5	-.1	2.0

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 185. Hand and edge tools (SIC 3423): Indexes of output, employee hours, and employees, 1963–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	56.9	67.7	66.9	71.0	67.0	66.4	69.3
1964	61.5	71.4	70.7	74.2	69.6	68.9	72.3
1965	70.2	77.0	77.1	76.9	75.1	75.1	75.2
1966	75.6	85.1	86.3	80.6	80.9	81.3	79.2
1967	73.3	78.1	79.5	72.6	76.4	77.8	71.3
1968	74.4	77.9	79.0	73.7	76.6	77.5	73.3
1969	80.4	82.7	83.5	79.6	81.1	82.1	77.2
1970	74.7	82.1	82.3	81.2	80.2	81.3	76.2
1971	72.7	77.0	77.7	74.2	75.7	76.7	72.3
1972	85.1	84.1	85.2	80.1	83.6	84.3	81.2
1973	92.2	90.6	90.9	89.2	89.6	90.2	88.1
1974	87.1	89.9	90.5	87.6	89.4	90.5	85.1
1975	75.8	80.7	80.2	82.8	80.9	80.8	81.2
1976	85.1	87.2	86.5	89.8	87.7	87.5	88.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.6	107.2	109.1	100.0	106.8	108.7	100.0
1979	111.7	107.5	106.6	111.3	108.7	108.1	110.9
1980	95.0	96.5	92.9	110.8	100.4	97.8	109.9
1981	95.0	99.8	97.5	108.6	100.6	98.6	107.9
1982	76.2	82.1	76.1	105.4	86.0	80.8	105.0
1983	73.5	82.3	76.9	103.2	85.1	80.2	103.0
1984	77.6	86.1	82.0	102.2	86.8	82.7	102.0
1985	75.8	83.7	79.9	98.4	86.4	83.2	98.0
1986 [1]	77.1	85.9	82.1	100.5	85.7	81.8	100.0
Average annual percent change:							
1958-86	1.8	1.2	1.0	1.7	1.4	1.2	1.8
1982-86	.5	1.1	1.9	-1.4	1	.6	-1.5

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 186. Heating equipment, except electric (SIC 3433): Indexes of output per employee hour and output per employee, 1972–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	85.5	86.2	83.7	86.4	88.0	d2.5
1973	85.0	85.0	85.1	88.0	88.7	86.0
1974	78.9	81.2	73.3	80.2	82.2	75.4
1975	80.4	85.4	69.2	79.2	83.0	70.7
1976	84.5	88.3	75.4	86.0	90.1	76.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.6	101.6	101.5	101.8	101.8	101.7
1979	95.8	96.8	93.2	97.1	98.6	93.5
1980	99.7	102.6	92.1	98.9	101.4	92.8
1981	94.6	103.7	76.2	92.5	100.8	76.1
1982	102.3	114.0	79.9	99.9	110.2	80.3
1983	93.2	100.6	77.4	93.0	101.0	77.1
1984	102.0	110.3	84.6	102.8	111.7	84.8
1985	101.6	107.0	89.1	103.9	110.8	89.0
1986 [2]	105.0	111.0	91.4	106.9	114.1	91.5
Average annual percent change:						
1972-86	1.7	2.2	.6	1.7	2.2	.5
1982-86	1.4	.1	4.2	2.5	1.6	4.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 187. Heating equipment, except electric (SIC 3433): Indexes of output, employee hours, and employees, 1972–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	103.5	121.0	120.0	123.7	119.8	117.6	125.4
1973	109.1	128.3	128.3	128.2	124.0	123.0	126.8
1974	94.5	119.8	116.4	129.0	117.8	115.0	125.4
1975	86.6	107.7	101.4	125.2	109.3	104.3	122.5
1976	80.0	94.7	90.6	106.1	93.0	88.8	104.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.2	111.4	111.4	111.5	111.2	111.2	111.3
1979	115.9	121.0	119.7	124.4	119.4	117.6	123.9
1980	124.2	124.6	121.1	134.4	125.6	122.5	133.8
1981	96.5	102.0	93.1	126.7	104.3	95.7	126.8
1982	100.7	98.4	88.3	126.0	100.8	91.4	125.4
1983	93.4	100.2	92.8	120.6	100.4	92.5	121.1
1984	95.6	93.7	86.7	113.0	93.0	85.6	112.7
1985	96.6	95.1	90.3	108.4	93.0	87.2	108.5
1986 [1]	92.8	88.4	83.6	101.5	86.8	81.3	101.4
Average annual percent change:							
1972-86	-.2	-1.9	-2.3	-.7	-1.8	-2.3	-.6
1982-86	-1.3	-2.6	-1.4	-5.2	-3.7	-2.9	-5.2

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 188. Fabricated structural metal (SIC 3441): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	91.9	90.4	95.8	93.4	91.8	97.8
1964	92.9	91.5	97.7	96.5	95.1	100.2
1965	97.1	94.9	103.9	99.5	97.3	106.2
1966	95.0	92.3	103.4	97.0	94.4	105.1
1967	96.6	94.8	102.3	99.4	97.8	104.1
1968	100.3	98.5	105.9	102.7	101.3	106.2
1969	99.8	99.0	102.2	102.9	102.0	105.5
1970	102.2	102.2	102.0	105.8	104.6	108.5
1971	107.6	106.9	109.5	109.7	108.7	112.8
1972	110.8	109.8	113.3	110.6	109.9	112.3
1973	113.0	112.7	113.8	112.8	111.9	115.3
1974	106.9	106.0	109.4	108.0	106.3	112.6
1975	97.4	96.9	98.6	97.1	95.8	100.7
1976	98.9	98.7	99.0	98.7	98.1	100.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.5	99.4	104.0	100.3	99.0	104.0
1979	102.1	100.3	107.6	102.0	100.0	107.9
1980	102.1	99.8	109.4	102.4	99.8	110.3
1981	98.5	95.8	107.4	98.9	96.0	107.8
1982	99.5	99.8	98.4	100.6	101.2	99.0
1983	103.0	105.0	97.6	103.7	106.2	97.5
1984	107.9	108.2	107.1	108.1	108.2	107.5
1985	117.7	117.5	118.3	116.4	115.6	118.8
1986 [2]	117.7	118.8	114.4	118.5	120.0	114.9
Average annual percent change:						
1958-86	1.0	1.0	.9	.8	.9	.6
1982-86	4.8	4.7	5.1	4.5	4.3	5.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 189. Fabricated structural metal (SIC 3441): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	80.3	87.4	88.8	83.8	86.0	87.5	82.1
1964	85.6	92.1	93.6	87.6	88.7	90.0	85.4
1965	93.2	96.0	98.2	89.7	93.7	95.8	87.8
1966	95.2	100.2	103.1	92.1	98.1	100.9	90.6
1967	107.6	111.4	113.5	105.2	108.2	110.0	103.4
1968	107.9	107.6	109.5	101.9	105.1	106.5	101.6
1969	108.3	108.5	109.4	106.0	105.2	106.2	102.7
1970	106.4	104.1	104.1	104.3	100.6	101.7	98.1
1971	106.4	98.9	99.5	97.2	97.0	97.9	94.3
1972	116.1	104.8	105.7	102.5	105.0	105.6	103.4
1973	119.7	105.9	106.2	105.2	106.1	107.0	103.8
1974	112.6	105.3	106.2	102.9	104.3	105.9	100.0
1975	101.1	103.8	104.3	102.5	104.1	105.5	100.4
1976	96.0	97.1	97.3	97.0	97.3	97.9	95.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.6	101.1	102.2	97.7	101.3	102.6	97.7
1979	112.0	109.7	111.7	104.1	109.8	112.0	103.8
1980	121.5	119.0	121.7	111.1	118.7	121.8	110.2
1981	115.1	116.9	120.2	107.2	116.4	119.9	106.8
1982	104.9	105.4	105.1	106.6	104.3	103.7	106.0
1983	96.0	95.1	93.3	100.4	94.5	92.3	100.4
1984	100.2	92.9	92.6	93.6	92.7	92.6	93.2
1985	106.2	90.2	90.4	89.8	91.2	91.9	89.4
1986	101.0	85.8	85.0	86.3	85.2	84.2	87.9
Average annual percent change:							
1958-86	1.4	.4	.3	.5	.5	.5	.6
1982-86	(1)	-4.5	-4.5	-4.8	-4.3	-4.1	-4.8

[1] Preliminary.
[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 190. Metal doors, sash, and trim (SIC 3442): Indexes of output per employee hour and output per employee, 1967–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	81.7	82.9	78.0	83.4	84.7	79.5
1968	85.6	86.5	83.1	86.2	87.1	83.3
1969	83.7	85.0	79.4	85.0	86.0	81.9
1970	82.1	85.9	71.6	83.9	86.8	76.1
1971	91.4	93.8	84.4	92.5	94.3	86.8
1972	93.1	93.9	90.3	93.9	95.4	89.5
1973	92.0	94.1	86.0	92.8	94.8	87.1
1974	87.2	88.6	82.9	87.5	88.2	85.4
1975	89.3	92.1	81.3	88.2	90.0	83.1
1976	92.9	93.6	90.9	93.6	93.9	92.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.8	95.9	91.2	94.8	96.0	91.3
1979	92.8	94.9	86.4	92.8	94.9	86.8
1980	90.6	93.0	83.3	90.0	92.1	84.0
1981	90.4	92.9	83.1	91.6	94.6	83.6
1982	96.0	101.9	80.7	95.8	101.7	81.1
1983	99.7	103.4	89.0	98.0	101.2	89.1
1984	102.8	107.0	91.0	102.9	107.2	91.3
1985	106.3	110.9	93.4	107.2	112.2	93.9
1986 [2]	104.1	108.5	91.6	107.6	113.7	92.0
Average annual percent change:						
1967-86	1.1	1.2	.7	1.1	1.2	.6
1982-86	2.3	2.0	3.1	3.3	3.3	3.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 191. Metal doors, sash, and trim (SIC 3442): Indexes of output, employee hours, and employees, 1967–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	81.0	99.1	97.7	103.8	97.1	95.6	101.9
1968	81.7	95.4	94.5	98.3	94.8	93.8	98.1
1969	81.9	97.9	96.4	103.1	96.4	95.2	100.0
1970	79.5	96.8	92.6	111.1	94.7	91.6	104.5
1971	88.5	96.8	94.4	104.8	95.7	93.8	101.9
1972	100.9	108.4	107.4	111.8	107.4	105.8	112.7
1973	98.2	106.7	104.4	114.2	105.8	103.6	112.7
1974	88.5	101.6	100.0	106.9	101.2	100.4	103.8
1975	72.0	80.6	78.2	88.6	81.6	80.0	86.6
1976	80.2	86.3	85.7	88.2	85.7	85.4	86.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.9	108.6	107.3	112.8	108.5	107.2	112.7
1979	103.4	111.4	108.9	119.7	111.4	109.0	119.1
1980	96.3	106.3	103.5	115.6	107.0	104.6	114.6
1981	100.1	110.7	107.8	120.4	109.1	105.8	119.7
1982	96.6	100.6	94.8	119.7	100.8	95.0	119.1
1983	105.0	105.3	101.5	118.0	107.1	103.8	117.8
1984	107.0	104.1	100.0	117.6	104.0	99.8	117.2
1985	116.0	109.1	104.6	124.2	108.2	103.4	123.6
1986 [1]	120.1	115.4	110.7	131.1	111.6	105.6	130.6
Average annual percent change:							
1967-86	1.8	.7	.6	1.1	.7	.6	1.3
1982-86	5.5	3.1	3.5	2.4	2.2	2.1	2.4

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 192. Metal stampings (SIC 3465, 3466, 3469): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	87.5	87.5	87.8	90.2	90.4	89.6
1964	84.0	83.1	89.1	87.3	86.5	91.3
1965	88.8	88.2	92.4	92.4	92.0	94.4
1966	87.1	85.6	96.3	88.9	87.3	97.9
1967	87.7	87.8	87.0	87.3	87.1	88.5
1968	91.0	90.0	96.6	93.5	92.8	96.8
1969	89.4	89.2	90.5	90.6	90.1	93.3
1970	86.4	88.4	77.6	87.8	89.0	82.5
1971	93.8	95.2	86.9	93.2	94.1	89.3
1972	97.6	97.6	97.5	97.8	98.0	96.6
1973	97.1	96.5	100.6	98.2	97.5	101.9
1974	96.3	97.7	90.0	94.0	94.3	92.6
1975	93.2	96.3	79.6	88.8	90.6	81.3
1976	97.2	98.0	93.2	96.3	96.6	94.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	100.8	103.5	99.7	99.0	103.4
1979	102.3	102.4	101.4	98.3	97.6	101.7
1980	99.9	102.3	88.6	93.7	94.8	89.1
1981	101.4	103.5	91.4	96.8	97.9	91.7
1982	98.1	103.5	76.7	94.0	98.4	76.9
1983	104.7	107.6	91.7	104.8	108.0	91.7
1984	110.4	112.1	102.1	110.7	112.6	102.5
1985	104.7	106.5	96.8	106.3	108.4	97.1
1986 [2]	108.7	111.0	98.1	109.9	112.6	98.5
Average annual percent change:						
1963-86	1.0	1.2	.3	.8	.9	.1
1982-86	2.1	1.3	5.6	3.3	2.8	5.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 193. Metal stampings (SIC 3465, 3466, 3469): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	67.5	77.1	77.1	76.9	74.8	74.7	75.3
1964	68.6	81.7	82.6	77.0	78.6	79.3	75.1
1965	79.1	89.1	89.7	85.6	85.6	86.0	83.8
1966	82.6	94.8	96.5	85.8	92.9	94.6	84.5
1967	81.0	92.4	92.3	93.1	92.8	93.0	91.5
1968	89.1	97.9	99.0	92.2	95.3	96.0	92.0
1969	88.9	99.4	99.7	98.2	98.1	98.7	95.3
1970	76.9	89.0	87.0	99.1	87.6	86.4	93.2
1971	79.7	85.0	83.7	91.7	85.5	84.7	89.2
1972	89.7	91.9	91.9	92.0	91.7	91.5	92.9
1973	98.7	101.6	102.3	98.1	100.5	101.2	96.9
1974	89.1	92.5	91.2	99.0	94.8	94.5	96.2
1975	72.3	77.6	75.1	90.8	81.4	79.8	88.9
1976	88.0	90.5	89.8	94.4	91.4	91.1	92.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	101.2	101.7	99.0	102.8	103.5	99.1
1979	99.6	97.4	97.3	98.2	101.3	102.0	97.9
1980	85.4	85.5	83.5	96.4	91.1	90.1	95.8
1981	85.5	84.3	82.6	93.5	88.3	87.3	93.2
1982	76.2	77.7	73.6	99.4	81.1	77.4	99.1
1983	88.9	84.9	82.6	96.9	84.8	82.3	96.9
1984	104.4	94.6	93.1	102.3	94.3	92.7	101.9
1985	101.7	97.1	95.5	105.1	95.7	93.8	104.7
1986 [1]	99.9	91.9	90.0	101.8	90.9	88.7	101.4
Average annual percent change:							
1963-86	1.1	.1	(2)	.9	.3	.2	1.0
1982-86	7.0	4.8	5.6	1.3	3.6	4.1	1.2

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 194. Automotive stampings (SIC 3465): Indexes of output per employee hour and output per employee, 1972–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	95.9	97.3	88.6	95.9	97.5	87.5
1973	94.8	95.5	90.5	95.7	96.5	91.5
1974	94.9	97.3	81.9	90.3	91.4	84.3
1975	94.1	96.9	79.5	87.3	88.5	81.0
1976	96.4	97.3	90.5	94.4	94.9	91.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.9	102.0	101.3	98.9	98.6	101.1
1979	102.9	104.1	96.1	96.6	96.6	96.2
1980	101.6	105.9	80.7	91.5	93.6	81.1
1981	105.0	108.5	86.5	96.5	98.4	86.7
1982	106.7	111.3	84.5	99.7	103.0	84.8
1983	122.3	123.5	115.3	123.0	124.5	115.3
1984	127.9	127.9	127.1	129.7	130.1	127.4
1985	120.1	120.5	118.0	122.9	123.7	118.3
1986 [2]	121.8	122.8	116.0	124.7	126.4	116.3
Average annual percent change:						
1972-86	2.2	2.2	2.3	2.4	2.4	2.3
1982-86	2.5	1.7	6.8	4.6	4.1	6.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 195. Automotive stampings (SIC 3465): Indexes of output, employee hours, and employees, 1972–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	89.3	93.1	91.8	100.8	93.1	91.6	102.0
1973	97.9	103.3	102.5	108.2	102.3	101.4	107.0
1974	83.0	87.5	85.3	101.4	91.9	90.8	98.5
1975	70.8	75.2	73.1	89.1	81.1	80.0	87.4
1976	87.8	91.1	90.2	97.0	93.0	92.5	95.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.1	100.2	100.1	100.8	103.2	103.6	101.0
1979	91.4	88.8	87.8	95.1	94.6	94.6	95.0
1980	69.7	68.6	65.8	86.4	76.2	74.5	85.9
1981	69.3	66.0	63.9	80.1	71.8	70.4	79.9
1982	68.2	63.9	61.3	80.7	68.4	66.2	80.4
1983	89.8	73.4	72.7	77.9	73.0	72.1	77.9
1984	110.1	86.1	86.1	86.6	84.9	84.6	86.4
1985	110.6	92.1	91.8	93.7	90.0	89.4	93.5
1986 [1]	112.2	92.1	91.4	96.7	90.0	88.8	96.5
Average annual percent change:							
1972-86	1.0	-1.1	-1.1	-1.3	-1.3	-1.3	-1.2
1982-86	12.8	10.1	10.9	5.6	7.9	8.4	5.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 196. Metal stampings, not elsewhere classified (SIC 3469): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	100.0	98.2	107.7	100.2	98.7	108.3
1973	99.8	97.1	113.0	101.0	98.0	114.2
1974	98.4	98.0	100.2	98.6	97.6	102.9
1975	91.7	95.2	79.5	90.0	92.6	81.0
1976	98.0	98.8	94.9	97.8	98.2	96.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.2	98.8	106.7	100.5	99.0	106.4
1979	101.5	99.6	109.9	100.4	98.1	110.3
1980	98.1	97.6	100.7	96.2	95.0	101.3
1981	96.0	97.4	100.5	97.3	96.6	100.7
1982	89.3	94.4	73.0	88.1	93.0	73.2
1983	89.3	92.5	77.9	89.6	93.1	77.9
1984	95.1	97.6	86.3	94.6	96.9	86.6
1985	90.0	92.3	81.4	90.8	93.6	81.6
1986 [2]	95.9	99.9	82.5	94.9	98.7	82.7
Average annual percent change:						
1972-86	-.5	-.2	-1.9	-.6	-.2	-2.0
1982-86	1.5	1.1	2.9	1.6	1.3	2.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 197. Metal stampings, not elsewhere classified (SIC 3469): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	89.3	99.3	90.9	82.9	89.1	90.5	84.0
1973	99.7	99.9	102.7	88.2	98.7	101.7	87.3
1974	96.6	98.2	98.6	96.4	98.0	99.0	93.9
1975	72.6	79.2	76.3	91.3	80.7	78.4	89.6
1976	87.1	88.9	88.2	91.8	89.1	88.7	90.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.4	103.2	104.7	96.9	102.9	104.4	97.2
1979	111.3	109.7	111.8	101.3	110.9	113.5	100.9
1980	106.1	108.1	108.7	105.4	110.3	111.7	104.7
1981	106.4	108.6	109.2	105.9	109.3	110.2	105.7
1982	85.7	96.0	90.8	117.4	97.3	92.2	117.0
1983	89.3	100.0	96.5	114.6	99.7	95.9	114.6
1984	101.3	106.5	103.6	117.4	107.1	104.5	117.0
1985	94.3	104.8	102.2	115.9	103.8	100.7	115.6
1986 [1]	88.2	92.0	88.3	106.9	92.9	89.4	106.6
Average annual percent change:							
1972-86	.3	.8	.5	2.3	.9	.5	2.3
1982-86	1.1	-.4	(2)	-1.7	-.5	-.1	-1.8

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 198. Valves and pipe fittings (SIC 3494): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	84.3	81.7	91.7	86.2	83.5	93.5
1964	86.6	83.4	95.9	91.2	88.3	98.6
1965	96.4	93.5	104.7	100.1	97.6	106.9
1966	95.1	91.7	104.7	100.2	97.7	106.5
1967	91.3	89.2	97.0	94.5	92.9	98.6
1968	92.3	90.8	96.5	93.9	92.8	96.7
1969	94.1	92.7	97.8	97.3	95.8	100.9
1970	93.6	95.5	89.4	96.7	97.3	95.2
1971	98.3	99.1	96.4	99.8	100.1	99.2
1972	100.7	100.3	101.4	101.5	102.1	100.3
1973	103.3	102.6	104.2	105.6	105.6	105.5
1974	94.3	92.7	98.3	100.5	100.2	101.3
1975	92.4	95.3	85.8	92.7	95.1	87.6
1976	91.1	92.8	87.1	92.0	93.5	86.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.3	100.9	102.6	101.2	100.5	102.7
1979	105.3	105.7	104.5	105.6	105.9	104.9
1980	102.8	104.8	98.2	103.0	104.7	99.0
1981	105.4	108.4	98.6	105.7	108.8	99.1
1982	101.3	109.1	85.8	99.2	106.2	86.2
1983	103.6	111.6	88.0	101.9	109.2	88.2
1984	105.1	109.8	95.0	105.3	110.3	95.3
1985	104.5	110.2	92.7	104.3	109.9	93.1
1986 [2]	104.5	110.9	91.3	104.5	111.2	91.7
Average annual percent change:						
1954-86	1.1	1.6	-.1	1.0	1.5	-.1
1982-86	.7	.2	1.8	1.3	1.0	1.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 199. Valves and pipe fittings (SIC 3494): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	63.8	75.7	78.1	69.6	74.0	76.4	68.2
1964	68.7	79.3	82.4	71.6	75.3	77.8	69.7
1965	81.0	84.0	86.6	77.4	80.9	83.0	75.8
1966	85.0	89.4	92.7	81.2	84.8	87.0	79.8
1967	82.9	90.8	92.9	85.5	87.7	89.2	84.1
1968	82.5	89.4	90.9	85.5	87.9	88.9	85.3
1969	86.1	91.5	92.9	88.0	88.5	89.9	85.3
1970	86.7	92.6	90.8	97.0	89.7	89.1	91.1
1971	86.5	88.0	87.3	89.7	88.7	86.4	87.2
1972	88.1	87.5	87.8	86.9	86.8	86.3	87.8
1973	96.4	95.3	95.7	94.4	93.2	93.2	93.3
1974	99.5	105.5	107.3	101.2	99.0	99.3	98.2
1975	87.3	94.5	91.6	101.8	94.2	91.8	99.7
1976	86.9	95.4	93.6	99.8	94.5	92.9	98.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.2	103.8	104.3	102.5	104.0	104.7	102.4
1979	113.9	108.2	107.8	109.0	107.9	107.6	108.6
1980	111.1	108.1	106.0	113.1	107.9	106.1	112.2
1981	115.2	109.3	106.3	116.8	109.0	105.9	116.2
1982	105.2	103.9	96.4	122.6	106.0	99.1	122.0
1983	94.6	91.3	84.8	107.5	92.8	86.6	107.3
1984	103.5	98.5	94.3	109.0	98.3	93.8	108.6
1985	100.2	95.9	90.9	108.1	96.1	91.2	107.6
1986 [1]	95.4	91.3	86.0	104.5	91.3	85.8	104.0
Average annual percent change:							
1954-86	2.4	1.3	.8	2.5	1.4	.9	2.5
1982-86	-1.4	-2.1	-1.6	-3.1	-2.6	-2.3	-3.1

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 200. Fabricated pipe and fittings (SIC 3498): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	93.0	97.6	80.4	97.6	103.4	82.7
1964	97.3	98.3	93.9	103.0	105.1	96.6
1965	100.9	101.8	98.3	105.1	106.9	100.0
1966	100.3	103.2	92.3	107.3	112.5	93.7
1967	96.9	98.4	92.2	102.9	106.1	94.1
1968	100.1	98.9	104.8	106.7	107.1	105.1
1969	105.8	104.8	108.8	116.1	117.3	112.6
1970	94.0	92.9	97.5	100.5	99.7	103.2
1971	97.0	96.5	98.8	100.0	99.3	101.9
1972	106.0	105.5	107.9	108.4	109.1	106.5
1973	110.2	110.5	109.0	112.8	113.8	109.9
1974	111.4	111.7	110.6	115.8	116.3	114.4
1975	104.0	104.7	101.7	106.4	107.1	104.1
1976	97.4	95.4	104.6	99.0	96.8	106.8
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	99.5	104.6	100.7	99.5	104.9
1979	90.2	86.7	103.9	91.9	88.6	104.2
1980	90.1	89.7	91.3	90.7	90.4	92.1
1981	93.5	92.6	96.4	94.4	93.6	97.2
1982	89.5	92.8	80.4	91.5	95.4	81.1
1983	87.2	88.8	82.4	88.8	91.0	82.6
1984	98.0	98.7	96.1	99.8	101.0	96.3
1985	90.4	93.4	81.6	89.4	92.1	82.0
1986 [2]	91.0	95.5	79.1	91.4	95.9	79.4
Average annual percent change:						
1958-86	[3]	-.1	.2	-.3	-.4	.1
1982-86	.7	1.1	-.4	[3]	.2	-.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 201. Fabricated pipe and fittings (SIC 3498): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	45.0	48.4	46.1	56.0	46.1	43.5	54.4
1964	51.1	52.5	52.0	54.4	49.6	48.6	52.9
1965	57.4	56.9	56.4	58.4	54.6	53.7	57.4
1966	62.0	61.8	60.1	67.2	57.8	55.1	66.2
1967	66.4	68.5	67.5	72.0	64.5	62.6	70.6
1968	69.6	69.5	70.4	66.4	65.2	65.0	66.2
1969	67.9	64.2	64.8	62.4	58.5	57.9	60.3
1970	57.7	61.4	62.1	59.2	57.4	57.9	55.9
1971	58.5	60.3	60.6	59.2	58.5	58.9	57.4
1972	67.3	63.5	63.8	62.4	62.1	61.7	63.2
1973	77.6	70.4	70.2	71.2	68.8	68.2	70.6
1974	85.8	77.0	76.8	77.6	74.1	73.8	75.0
1975	78.1	75.1	74.6	76.8	73.4	72.9	75.0
1976	89.5	91.9	93.8	85.6	90.4	92.5	83.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.9	107.2	108.4	103.2	107.1	108.4	102.9
1979	107.2	118.8	123.6	103.2	116.7	121.0	102.9
1980	103.0	114.3	114.8	112.8	113.5	114.0	111.8
1981	107.2	114.7	115.8	111.2	113.5	114.5	110.3
1982	106.1	118.5	114.3	132.0	116.0	111.2	130.9
1983	92.3	105.8	103.9	112.0	103.9	101.4	111.8
1984	89.2	91.0	90.4	92.8	89.4	88.3	92.6
1985	79.6	88.1	85.2	97.6	89.0	86.4	97.1
1986 [1]	67.7	74.4	70.9	85.6	74.1	70.6	85.3
Average annual percent change:							
1958-86	3.1	3.2	3.3	2.9	3.4	3.6	3.0
1982-86	-9.9	-10.5	-10.9	-9.6	-10.0	-10.1	-9.5

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 202. Internal combustion engines, not elsewhere classified (SIC 3519): Indexes of output per employee hour and output per employee, 1967–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	70.3	68.8	75.1	71.7	70.7	74.6
1968	72.2	71.4	74.7	73.8	72.4	77.8
1969	75.4	74.6	77.8	77.2	76.2	79.9
1970	76.4	76.6	75.7	75.8	75.4	76.8
1971	81.8	82.5	79.9	79.9	79.4	81.5
1972	87.9	86.9	90.9	88.6	87.2	92.6
1973	91.0	88.9	97.8	93.4	91.4	99.7
1974	93.9	91.9	100.9	96.8	94.9	102.4
1975	86.7	89.5	79.1	84.3	86.0	80.1
1976	92.8	94.3	88.7	91.9	92.7	89.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.1	105.7	103.5	105.5	106.3	103.4
1979	98.2	99.2	95.3	96.2	96.5	95.7
1980	94.3	98.0	84.6	93.6	97.1	85.3
1981	93.2	96.6	84.5	93.2	96.6	84.8
1982	82.0	93.9	59.4	76.8	85.7	59.6
1983	86.8	100.3	61.9	82.1	93.2	61.9
1984	99.8	104.1	88.7	98.9	103.1	89.0
1985	102.7	109.7	85.9	99.8	105.6	86.4
1986 [2]	108.5	117.1	88.9	106.0	113.7	89.2
Average annual percent change:						
1967-86	1.7	2.3	[3]	1.4	2.0	-.1
1982-86	7.6	5.5	12.0	8.8	7.1	12.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 203. Internal combustion engines, not elsewhere classified (SIC 3519): Indexes of output, employee hours, and employees, 1967–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	51.4	73.1	74.7	68.4	71.7	72.7	68.9
1968	54.9	76.0	76.9	73.5	74.4	75.8	70.6
1969	65.6	87.0	87.9	84.3	85.0	86.1	82.1
1970	59.1	77.4	77.2	78.1	78.0	78.4	77.0
1971	59.3	72.5	71.9	74.2	74.2	74.7	72.8
1972	69.7	79.3	80.2	76.7	78.7	79.9	75.3
1973	79.8	87.7	89.8	81.6	85.4	87.3	80.0
1974	88.1	93.8	95.9	87.3	91.0	92.8	86.0
1975	73.6	84.9	82.2	93.1	87.3	85.6	91.9
1976	82.6	89.0	87.6	93.1	89.9	89.1	91.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.9	108.4	107.8	110.1	108.0	107.2	110.2
1979	109.6	111.6	110.5	115.0	113.9	113.6	114.5
1980	94.3	100.0	96.2	111.5	100.7	97.1	110.6
1981	93.5	100.3	96.8	110.6	100.3	96.8	110.2
1982	68.7	83.8	73.2	115.7	89.5	80.2	115.3
1983	65.3	75.2	65.1	105.5	79.5	70.1	105.5
1984	87.1	87.3	83.7	98.2	86.1	84.5	97.9
1985	81.2	79.1	74.0	94.5	81.4	76.9	94.0
1986 [1]	78.2	72.1	66.8	88.0	73.8	68.8	87.7
Average annual percent change:							
1967-86	2.1	-.5	-.1	2.1	.8	.2	2.2
1982-86	4.9	-2.5	-.5	-6.4	-3.6	-2.1	-6.4

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 204. Farm and garden machinery (SIC 352): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	66.6	64.3	74.3	69.4	67.8	74.1
1964	70.2	66.9	82.0	73.7	71.1	82.0
1965	72.2	68.6	84.8	75.6	72.8	84.5
1966	76.7	72.3	92.7	80.9	77.6	92.0
1967	76.8	73.3	88.8	78.5	75.6	88.1
1968	76.7	75.0	82.1	79.1	77.0	85.6
1969	73.8	73.2	75.9	75.5	74.7	77.9
1970	75.7	75.2	77.3	76.8	76.2	78.4
1971	82.4	83.0	81.0	83.8	84.3	82.4
1972	90.1	87.0	99.9	92.9	90.0	101.8
1973	94.8	90.7	109.2	97.4	93.2	111.3
1974	98.2	92.6	118.3	102.2	96.9	120.1
1975	97.7	95.3	105.2	100.9	99.0	106.4
1976	101.1	100.5	103.1	102.2	101.4	104.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.9	98.1	101.2	98.9	98.2	101.2
1979	100.5	98.8	105.5	101.9	100.6	105.8
1980	93.3	96.3	85.5	92.5	95.1	86.1
1981	95.1	100.1	83.1	93.2	97.2	83.4
1982	94.9	106.5	72.5	92.7	102.9	72.8
1983	95.1	105.4	74.6	93.6	103.0	74.7
1984	105.2	109.9	93.7	104.9	109.6	94.0
1985	101.5	107.3	87.9	101.5	107.5	88.1
1986 [2]	103.0	108.4	90.5	104.0	109.7	90.8
Average annual percent change:						
1958-86	2.0	2.4	1.1	1.8	2.1	1.1
1982-86	2.3	.5	6.3	3.2	1.7	6.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 205. Farm and garden machinery (SIC 352): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	53.7	80.6	83.5	72.3	77.4	79.2	72.5
1964	60.1	85.6	89.9	73.3	81.5	84.5	73.3
1965	64.0	88.6	93.3	75.5	34.7	87.9	75.7
1966	76.4	99.6	105.6	82.4	94.4	98.5	83.0
1967	73.6	95.8	100.4	82.9	93.7	97.4	83.5
1968	70.8	92.3	94.4	86.2	89.5	92.0	82.7
1969	65.8	89.1	89.9	86.7	87.1	88.1	84.5
1970	65.1	86.0	86.6	84.2	84.9	85.4	83.0
1971	66.2	80.3	79.8	81.7	79.0	78.5	80.3
1972	77.1	85.6	88.6	77.2	83.0	85.7	75.7
1973	93.5	98.6	103.1	85.6	96.0	100.3	84.0
1974	106.9	108.9	115.4	90.4	104.6	110.3	89.0
1975	100.0	102.4	104.9	95.1	99.1	101.0	94.0
1976	98.9	97.8	98.4	95.9	96.8	97.5	94.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.8	94.8	95.6	92.7	94.8	95.5	92.7
1979	111.6	111.1	112.9	105.8	109.5	110.9	105.5
1980	94.3	101.1	97.9	110.3	101.9	99.2	109.5
1981	88.4	93.0	86.3	108.4	94.9	90.9	106.0
1982	70.0	73.8	65.7	96.6	75.5	68.0	96.2
1983	62.5	65.7	59.3	83.8	66.8	60.7	83.7
1984	68.6	65.2	62.4	73.2	65.4	62.6	73.0
1985	60.2	59.3	56.1	68.5	59.3	56.0	68.3
1986 [1]	54.2	52.6	50.0	59.9	52.1	49.4	59.7
Average annual percent change:							
1958-86	1.7	-.3	-.6	.6	-.1	-.4	.6
1982-86	-5.3	-7.5	-5.8	-10.9	-8.3	-6.9	-10.9

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 206. Farm machinery and equipment (SIC 3523): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	90.2	86.3	103.3	93.1	89.3	105.4
1973	95.6	91.1	111.5	98.2	93.6	113.8
1974	97.3	91.0	120.5	101.7	95.7	122.6
1975	98.8	95.6	109.2	102.1	99.3	110.5
1976	102.2	101.3	104.7	102.8	101.7	106.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	97.4	98.7	99.6	97.8	97.3	99.6
1979	98.3	98.7	103.2	99.9	98.7	103.6
1980	91.3	93.8	84.6	90.4	92.4	85.2
1981	94.1	99.2	82.3	92.0	95.9	82.6
1982	92.6	105.3	69.1	89.6	100.2	69.5
1983	92.0	104.5	68.8	89.8	101.1	68.8
1984	104.6	112.4	87.3	104.0	111.6	87.7
1985	98.6	108.2	78.8	98.0	107.3	79.3
1986 [2]	95.5	103.7	78.1	97.0	106.3	78.4
Average annual percent change:						
1972-86	.1	1.4	-3.3	-.3	1.0	-3.4
1982-86	1.3	([3])	3.9	2.5	1.8	3.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 207. Farm machinery and equipment (SIC 3523): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	74.2	82.3	86.0	71.8	79.7	83.1	70.4
1973	92.1	96.3	101.1	82.6	93.8	98.4	80.9
1974	102.7	105.6	112.9	85.2	101.0	107.3	83.8
1975	101.1	102.3	105.7	92.6	99.0	101.8	91.5
1976	99.7	97.6	98.4	95.2	97.0	98.0	94.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.2	92.6	93.3	90.6	92.2	92.7	90.6
1979	106.8	108.7	110.5	103.5	106.9	108.2	103.1
1980	91.8	100.6	97.9	108.5	101.6	99.4	107.7
1981	87.6	93.1	88.3	106.5	95.2	91.3	106.0
1982	65.5	70.7	62.2	94.8	73.1	65.4	94.3
1983	56.1	61.0	53.7	81.5	62.5	55.5	81.5
1984	59.7	57.1	53.1	68.4	57.4	53.5	68.1
1985	50.1	50.6	46.3	63.6	51.1	46.7	63.2
1986 [1]	42.2	44.2	40.7	54.0	43.5	39.7	53.8
Average annual percent change:							
1972-86	-4.9	-5.0	-6.2	-1.7	-4.7	-5.8	-1.6
1982-86	-9.4	-10.6	-9.5	-12.8	-11.7	-11.1	-12.9

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 208. Lawn and garden equipment (SIC 3524): Indexes of output per employee hour and output per employee, 1972–86
(1977=100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction wo
Index:						
1972	88.8	90.8	83.3	91.0	93.6	84.1
1973	89.8	88.2	95.2	92.6	91.4	96.6
1974	103.0	102.1	105.8	104.5	103.8	106.6
1975	89.5	92.7	81.5	92.3	96.2	82.3
1976	94.3	94.8	92.5	98.0	99.6	93.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.1	107.4	110.2	105.7	104.4	109.7
1979	113.5	112.0	118.1	113.3	111.9	117.7
1980	106.5	113.2	90.3	106.8	113.6	90.8
1981	101.0	105.7	88.9	101.1	106.1	88.4
1982	106.9	112.8	91.9	110.6	119.0	91.7
1983	111.8	112.7	109.0	113.1	114.5	109.0
1984	111.3	107.7	124.0	112.2	108.9	123.4
1985	115.7	111.6	129.5	118.2	114.8	129.9
1986 [2]	132.1	129.4	140.9	130.6	127.4	141.2
Average annual percent change:						
1972-86	2.1	2.0	2.5	2.0	1.9	2.4
1982-86	4.7	2.7	10.8	3.8	1.4	10.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the C and the Bureau of Labor Statistics.

Table 209. Lawn and garden equipment (SIC 3524): Indexes of output, employee hours, and employees, 1972–86
(1977=100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	96.1	108.2	105.8	115.4	105.6	102.7	114.3
1973	102.5	114.1	116.2	107.7	110.7	112.2	106.1
1974	134.9	131.0	132.1	127.5	129.1	129.9	126.5
1975	92.3	103.0	99.6	113.2	100.0	95.9	112.2
1976	93.5	99.2	98.6	101.1	95.4	93.9	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	118.7	109.8	110.5	107.7	112.3	113.7	108.2
1979	144.1	127.0	128.7	122.0	127.2	128.8	122.4
1980	111.2	104.4	98.2	123.1	104.1	97.9	122.4
1981	93.8	92.9	88.7	105.5	92.6	88.4	106.1
1982	101.0	94.5	89.5	109.9	91.3	84.9	110.2
1983	109.0	97.5	96.7	100.0	96.4	95.2	100.0
1984	133.5	119.9	124.0	107.7	119.0	122.6	108.2
1985	135.2	116.9	121.1	104.4	114.4	117.8	104.1
1986 [1]	144.0	109.0	111.3	102.2	110.3	113.0	102.0
Average annual percent change:							
1972-86	1.9	-.3	-.2	-.7	-.1	[2]	-.6
1982-86	9.7	4.8	6.8	1.0	5.6	8.2	1.1

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 210. Construction machinery and equipment (SIC 3531): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	75.0	72.2	83.4	78.3	76.6	83.0
1964	77.9	73.8	91.4	82.2	79.2	91.4
1965	80.0	75.4	95.1	84.3	80.8	94.7
1966	81.2	75.1	104.1	87.1	82.1	103.0
1967	82.5	79.1	93.0	84.1	81.3	92.2
1968	82.2	80.3	87.5	84.9	82.6	91.0
1969	83.0	79.9	92.6	86.8	84.0	94.7
1970	83.4	82.0	87.3	85.9	84.8	88.5
1971	85.6	85.3	86.6	87.1	86.6	88.1
1972	91.9	89.0	100.5	95.9	93.5	102.2
1973	94.0	90.0	106.2	99.1	95.9	108.2
1974	100.2	96.0	112.9	105.3	102.0	114.6
1975	93.9	92.3	98.2	96.9	95.9	99.3
1976	96.3	97.8	92.3	96.5	97.7	93.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.9	104.4	109.9	108.1	107.4	109.9
1979	100.3	101.3	98.0	97.8	97.6	98.3
1980	97.4	102.1	86.8	96.1	100.0	87.4
1981	96.1	99.8	87.6	95.2	98.3	88.0
1982	88.9	105.9	62.8	82.1	93.3	63.0
1983	88.2	103.8	63.2	82.3	93.5	63.2
1984	102.6	110.7	86.3	102.1	109.9	86.5
1985	104.1	114.3	84.5	103.4	113.4	84.7
1986	107.1	117.1	87.6	106.4	116.0	87.9
1987 [2]	99.3	108.2	81.5	100.4	110.4	81.7
Average annual percent change:						
1958-87	1.5	1.9	.4	1.2	1.6	.4
1982-87	3.3	1.4	6.7	5.2	4.4	6.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 211. Construction machinery and equipment (SIC 3531): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	52.7	70.3	73.0	63.2	67.3	68.8	63.5
1964	61.6	79.1	83.5	67.4	74.9	77.8	67.4
1965	65.9	82.4	87.4	69.3	78.2	81.6	69.6
1966	68.0	83.7	90.6	65.3	78.1	82.8	66.0
1967	72.1	87.4	91.2	77.5	85.7	88.7	78.2
1968	75.2	91.5	93.7	85.9	88.6	91.0	82.5
1969	77.2	93.0	96.6	83.4	88.9	91.9	31.5
1970	71.7	86.0	87.4	82.1	83.5	84.6	81.0
1971	68.0	79.4	79.7	78.5	78.1	78.5	77.2
1972	82.6	89.9	92.8	82.2	80.1	88.3	80.8
1973	96.4	102.6	107.1	90.8	97.3	100.5	89.1
1974	106.8	106.6	111.2	94.6	101.4	104.7	93.2
1975	93.7	99.6	101.5	95.4	96.7	97.7	94.4
1976	89.9	93.4	91.9	97.4	93.2	92.0	96.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	117.6	111.1	112.5	107.0	108.8	109.5	107.0
1979	110.3	110.0	108.9	112.6	112.8	113.0	112.2
1980	97.7	100.3	95.7	112.5	101.7	97.7	111.8
1981	89.4	93.0	89.6	102.0	93.9	90.9	101.6
1982	61.0	68.6	57.6	97.2	74.3	65.4	96.8
1983	48.7	55.2	46.9	77.1	59.2	52.1	77.1
1984	63.0	61.4	56.9	73.0	61.7	57.3	72.8
1985	60.9	58.5	53.3	72.1	58.9	53.7	71.9
1986	60.2	56.2	51.4	68.7	56.6	51.9	68.5
1987 [1]	55.4	55.8	51.2	68.0	55.2	50.2	67.8
Average annual percent change:							
1958-87	1.3	-.1	-.6	.9	.1	-.3	1.0
1982-87	-.3	-2.9	-1.1	-5.9	-4.7	-3.9	-6.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 212. Mining machinery and equipment (SIC 3532): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	103.3	100.9	108.1	102.7	98.9	110.3
1973	108.7	104.5	117.8	109.8	105.1	119.6
1974	115.2	108.3	131.7	116.4	108.8	133.4
1975	111.5	104.8	127.4	112.8	105.6	128.8
1976	95.1	90.3	105.9	97.1	92.3	107.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.9	96.0	90.0	92.1	93.2	90.1
1979	95.6	97.7	91.7	94.9	96.5	92.0
1980	98.6	102.8	91.5	97.4	100.3	92.4
1981	97.8	102.5	89.7	97.4	102.1	89.9
1982	91.0	104.4	73.1	87.0	96.7	73.4
1983	91.3	109.8	68.0	87.4	102.6	68.6
1984	98.5	110.2	81.5	96.1	105.9	81.9
1985	101.4	115.9	81.6	97.9	109.6	81.9
1986 [2]	103.7	117.6	84.5	101.3	113.1	84.8
Average annual percent change:						
1972-86	.7	.9	-3.5	-1.1	.4	-3.6
1982-86	3.7	3.0	4.7	4.3	3.9	4.8

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 213. Mining machinery and equipment (SIC 3532): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	69.6	67.4	69.0	64.4	67.8	70.4	63.1
1973	78.7	72.4	75.3	66.8	71.7	74.9	65.8
1974	93.8	81.4	86.6	71.2	80.6	86.2	70.3
1975	105.6	94.7	100.8	82.9	93.6	100.0	82.0
1976	98.7	103.8	109.3	93.2	101.6	106.9	91.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	90.9	96.8	94.7	101.0	98.7	97.5	100.9
1979	90.3	94.5	92.4	98.5	95.2	93.6	98.2
1980	92.4	93.7	89.9	101.0	94.9	92.1	100.0
1981	87.5	89.5	85.4	97.6	89.8	85.7	97.3
1982	68.1	74.8	65.2	93.2	78.3	70.4	92.8
1983	47.0	51.5	42.8	68.3	53.8	45.8	68.5
1984	51.7	52.5	46.9	63.4	53.8	48.8	63.1
1985	50.2	49.5	43.3	61.5	51.3	45.8	61.3
1986 [1]	47.4	45.7	40.3	56.1	46.8	41.9	55.9
Average annual percent change:							
1972-86	-4.5	-3.8	-5.4	-1.0	-3.5	-4.9	-.9
1982-86	-6.4	-9.7	-9.1	-10.6	-10.2	-9.9	-10.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 214. Oilfield machinery and equipment (SIC 3533): Indexes of output per employee hour and output per employee, 1967–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	86.3	86.6	85.4	85.4	85.8	84.5
1968	87.2	86.3	89.1	87.8	86.3	91.0
1969	82.1	80.6	86.0	83.0	81.1	87.1
1970	86.4	87.2	84.7	84.7	84.7	84.9
1971	90.7	95.1	82.0	88.7	91.8	82.7
1972	99.7	103.1	92.8	99.3	102.1	94.0
1973	105.7	107.3	102.2	108.0	110.3	103.1
1974	121.4	120.4	123.5	124.2	124.0	124.5
1975	107.9	105.0	115.0	109.8	107.3	115.6
1976	100.7	100.9	100.6	99.3	98.4	100.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.3	107.2	114.8	111.4	109.9	114.8
1979	105.6	104.6	107.9	105.7	104.6	107.9
1980	104.0	102.7	107.3	105.8	105.1	107.3
1981	104.7	101.1	114.5	108.9	106.4	114.5
1982	98.4	99.7	95.6	96.6	97.1	95.6
1983	91.8	102.8	73.4	87.1	95.4	73.4
1984	87.5	92.7	77.4	86.0	90.7	77.4
1985	80.1	86.1	69.1	79.1	84.9	69.1
1986	70.1	81.7	52.9	67.0	76.6	52.9
1987 [2]	78.9	90.5	60.8	78.3	90.7	60.8
Average annual percent change:						
1967-87	-.4	.1	-1.4	-.5	[3]	-1.5
1982-87	-5.6	-3.5	-9.2	-5.3	-3.0	-9.2

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 215. Oilfield machinery and equipment (SIC 3533): Indexes of output, employee hours, and employees, 1967–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	49.1	56.9	56.7	57.5	57.5	57.2	58.1
1968	52.5	60.2	60.8	58.9	59.8	60.8	57.7
1969	54.5	65.4	67.6	63.4	65.7	67.2	62.6
1970	54.7	63.3	62.7	64.6	64.6	64.6	64.4
1971	52.5	57.9	55.2	64.0	59.2	57.2	63.5
1972	59.7	59.9	57.9	64.3	60.1	58.5	63.5
1973	70.6	66.8	65.8	69.1	65.4	64.0	68.5
1974	92.5	76.2	76.8	74.9	74.5	74.6	74.3
1975	98.4	91.2	93.7	85.6	89.6	91.7	85.1
1976	94.5	93.8	93.7	93.9	95.2	96.0	93.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	124.1	113.5	115.8	108.1	111.4	112.9	108.1
1979	128.8	122.0	123.1	119.4	121.9	123.1	119.4
1980	147.4	141.7	143.5	137.4	139.3	140.3	137.4
1981	191.9	183.2	189.9	167.6	176.2	180.3	167.6
1982	157.2	159.7	157.7	164.4	162.7	161.9	164.4
1983	85.7	93.4	82.4	116.7	98.4	88.8	116.7
1984	80.9	92.5	87.3	104.5	94.1	89.2	104.5
1985	75.0	93.6	87.1	108.6	94.8	88.3	108.6
1986	46.9	66.9	57.4	88.7	70.0	61.2	88.7
1987 [1]	41.9	53.1	46.3	68.9	53.5	46.2	68.9
Average annual percent change:							
1967-87	-2.2	-2.6	-2.1	-3.7	-2.8	-2.2	-3.7
1982-87	-21.6	-16.9	-18.7	-13.6	-17.1	-19.1	-13.5

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 216. Machine tools (SIC 3541, 3542): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	90.1	84.0	105.3	93.0	87.4	105.0
1964	99.9	90.9	124.4	106.0	98.0	124.2
1965	101.4	91.7	128.6	108.3	99.5	128.4
1966	111.7	99.8	146.3	120.0	109.4	145.3
1967	101.8	92.2	128.4	107.1	98.4	127.6
1968	97.9	92.4	111.4	102.1	95.5	116.0
1969	100.1	95.2	111.5	103.7	98.5	114.3
1970	91.7	89.8	96.0	93.0	90.7	97.2
1971	87.9	91.5	81.6	86.3	88.4	83.1
1972	98.0	97.0	100.2	99.1	97.4	102.1
1973	107.3	101.7	120.5	111.3	105.8	122.8
1974	109.4	102.7	125.4	112.7	105.9	127.4
1975	103.0	101.7	106.0	102.2	99.5	107.2
1976	98.4	97.4	100.4	96.5	93.7	101.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.6	99.3	109.9	104.0	100.9	110.0
1979	102.0	97.8	111.5	103.2	98.8	112.0
1980	98.8	96.5	103.7	98.7	95.6	104.5
1981	96.5	95.9	97.8	96.0	94.7	98.3
1982	88.0	98.5	72.8	83.5	90.7	73.2
1983	83.0	94.0	67.3	78.0	85.6	67.4
1984	93.6	102.4	80.1	89.5	95.4	80.4
1985	96.7	105.1	83.5	93.4	99.6	83.9
1986	98.5	107.6	84.3	96.4	104.4	84.6
1987 [2]	101.9	110.5	88.0	99.7	107.1	86.5
Average annual percent change:						
1958-87	.4	1.0	-.9	.2	.6	-.9
1982-87	3.7	2.9	4.9	4.6	4.3	4.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 217. Machine tools (SIC 3541, 3542): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	93.0	103.2	110.7	88.3	100.0	106.4	88.6
1964	112.3	112.4	123.6	90.3	105.9	114.6	90.4
1965	125.3	123.6	136.6	97.4	115.7	125.9	97.6
1966	156.1	139.8	156.4	106.7	130.1	142.7	107.4
1967	149.9	147.3	162.6	116.7	139.9	152.4	117.5
1968	137.6	140.5	148.9	123.5	134.8	144.1	118.6
1969	137.8	137.7	144.7	123.6	132.9	139.9	120.6
1970	112.0	122.1	124.7	116.7	120.4	123.5	115.2
1971	81.4	92.6	88.9	99.8	94.3	92.1	98.0
1972	91.2	93.1	94.0	91.0	92.0	93.6	89.3
1973	116.3	108.4	114.3	96.5	104.5	109.9	94.7
1974	127.4	116.5	124.1	101.6	113.0	120.3	100.0
1975	109.1	105.9	107.3	102.9	106.7	109.6	101.8
1976	93.9	95.4	96.4	93.5	97.3	100.2	92.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	111.9	109.1	112.7	101.8	107.6	110.9	101.7
1979	119.2	116.9	121.9	106.9	115.5	120.6	106.4
1980	118.2	119.6	122.5	114.0	119.8	123.6	113.1
1981	113.4	117.5	118.2	116.0	118.1	119.7	115.4
1982	78.1	88.7	79.3	107.3	93.5	86.1	106.7
1983	54.7	65.9	58.2	81.3	70.1	63.9	81.2
1984	62.3	67.2	61.4	78.5	70.3	65.9	78.2
1985	67.9	70.2	64.6	81.3	72.7	68.2	80.9
1986	63.9	64.9	59.4	75.8	66.3	61.2	75.5
1987 [1]	60.0	58.9	54.3	68.2	60.2	56.0	67.8
Average annual percent change:							
1958-87	-.9	-1.3	-1.9	(2)	-1.1	-1.7	(2)
1982-87	2.2	-5.7	-5.0	-6.7	-6.5	-6.2	-6.8

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 218. Metal cutting machine tools (SIC 3541): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	84.3	78.3	97.9	86.0	80.4	97.6
1964	94.9	86.0	117.4	99.7	91.5	117.5
1965	98.7	88.4	125.7	104.8	95.6	125.3
1966	107.8	95.7	141.3	115.3	104.5	140.0
1967	98.0	87.5	126.2	102.7	92.9	125.2
1968	95.7	89.0	111.0	98.6	90.8	115.7
1969	97.5	91.7	110.2	100.1	93.9	113.0
1970	80.5	88.1	91.9	89.4	87.4	93.3
1971	85.5	89.3	78.7	82.8	84.5	80.3
1972	94.8	94.3	95.8	95.0	93.7	97.6
1973	105.5	99.8	117.8	107.8	101.9	119.9
1974	108.9	101.2	126.5	112.0	103.9	128.6
1975	102.9	100.7	107.3	101.8	98.4	108.4
1976	97.3	96.4	99.0	94.7	91.9	100.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.6	98.7	114.2	105.1	100.4	114.2
1979	103.0	97.4	115.2	105.1	99.6	115.7
1980	100.6	96.4	109.7	101.6	97.0	110.5
1981	98.9	96.3	103.9	99.2	96.5	104.2
1982	89.2	83.4	74.9	84.2	90.8	75.1
1983	81.1	92.2	66.2	76.3	84.0	66.3
1984	93.3	103.6	78.6	88.2	95.0	78.9
1985	96.4	106.4	81.9	92.2	99.3	82.3
1986	105.1	116.9	88.5	102.5	112.7	88.9
1987 [2]	100.2	112.1	83.6	97.1	107.3	83.9
Average annual percent change:						
1958-87	.6	1.3	-.5	.4	1.0	-.5
1982-87	4.1	3.9	4.3	4.8	5.2	4.3

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 219. Metal cutting machine tools (SIC 3541): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	88.4	104.9	112.9	90.3	102.8	109.9	90.6
1964	109.2	115.1	127.0	93.0	109.5	119.3	92.9
1965	124.8	126.4	141.1	99.3	119.1	130.5	99.6
1966	154.7	143.5	161.6	109.5	134.2	148.1	110.5
1967	150.6	153.6	172.1	119.3	146.6	162.1	120.3
1968	139.8	146.1	157.0	125.9	141.8	154.0	120.8
1969	139.0	142.5	151.5	126.1	138.9	148.1	123.0
1970	107.2	119.8	121.7	116.7	119.9	122.7	114.9
1971	75.2	88.0	84.2	95.5	90.8	89.0	93.7
1972	83.9	88.5	89.0	87.6	88.3	89.5	86.0
1973	106.6	102.9	106.8	92.2	100.7	106.6	90.6
1974	122.3	112.3	120.8	96.7	109.2	117.7	95.1
1975	107.5	104.5	106.7	100.2	105.6	109.2	99.2
1976	92.5	95.1	96.0	93.4	97.7	100.6	92.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.6	109.7	115.1	99.5	108.1	113.1	99.5
1979	122.0	118.5	125.2	105.9	116.1	122.5	105.4
1980	124.4	123.6	129.0	113.4	122.4	128.2	112.6
1981	123.9	125.3	128.6	119.3	124.9	128.4	118.9
1982	82.5	92.5	83.0	110.2	98.0	90.9	109.9
1983	55.2	68.1	59.9	83.4	72.3	65.7	83.3
1984	62.9	67.4	60.7	80.0	71.3	66.2	79.7
1985	66.3	68.6	62.3	81.0	71.9	66.8	80.6
1986	66.5	63.3	56.9	75.1	64.9	59.0	74.8
1987 [1]	57.5	57.4	51.3	68.8	59.2	53.6	68.5
Average annual percent change:							
1958-87	-.7	-1.3	-1.9	-.1	-1.1	-1.7	-.1
1982-87	-3.4	-7.1	-7.0	-7.3	-7.8	-8.1	-7.4

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 220. Metal forming machine tools (SIC 3542): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	108.4	101.3	129.8	115.3	109.5	129.7
1964	115.5	105.8	147.6	126.0	117.7	147.4
1965	109.3	100.5	137.9	118.2	110.6	138.2
1966	123.1	111.3	164.4	134.2	123.8	162.9
1967	112.7	105.0	136.2	120.0	113.9	135.4
1968	103.9	100.7	112.4	112.0	109.3	117.8
1969	107.0	103.9	115.4	113.7	111.5	118.7
1970	98.5	95.4	107.0	103.5	101.0	109.1
1971	95.7	99.3	88.3	96.7	100.1	90.1
1972	107.5	106.0	111.2	110.3	108.7	113.6
1973	114.1	109.2	127.4	122.2	118.6	130.6
1974	111.9	108.0	122.4	116.5	113.0	124.6
1975	104.0	104.5	102.8	104.1	103.7	104.5
1976	101.7	100.5	104.8	101.6	99.3	106.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.3	100.6	99.7	101.2	101.9	99.7
1979	99.2	98.1	101.9	98.4	96.6	102.7
1980	93.5	95.7	88.8	90.5	90.9	89.7
1981	89.4	92.8	82.4	86.0	87.6	82.7
1982	85.0	94.8	68.4	81.4	89.1	68.8
1983	87.6	97.6	70.7	82.0	88.9	70.7
1984	93.7	98.7	83.8	91.8	95.6	84.5
1985	96.6	101.6	86.7	95.3	99.7	87.3
1986	97.1	102.8	86.0	95.7	100.6	86.3
1987 [2]	104.6	107.2	98.9	104.5	106.8	99.8
Average annual percent change:						
1958-87	-.3	.3	-2.1	-.5	.1	-2.1
1982-87	4.0	2.3	7.3	5.1	3.9	7.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 221. Metal forming machine tools (SIC 3542): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	107.5	99.2	106.1	82.8	93.2	98.2	82.9
1964	122.2	105.8	115.5	82.8	97.0	103.8	82.9
1965	127.1	116.3	126.5	92.2	107.5	114.9	92.0
1966	160.8	130.6	144.5	97.8	119.8	129.9	98.7
1967	147.9	131.2	140.8	108.6	123.2	129.9	109.2
1968	131.7	126.8	130.8	117.2	117.6	120.5	111.8
1969	134.3	125.5	129.3	116.4	118.1	120.5	113.1
1970	126.2	128.1	132.3	117.9	121.9	124.9	115.7
1971	99.6	104.1	100.3	112.8	103.0	99.5	110.5
1972	112.1	104.3	105.8	100.8	101.6	103.1	98.7
1973	139.2	122.0	127.5	109.3	113.9	117.4	106.6
1974	142.5	127.4	132.0	116.4	122.3	126.1	114.4
1975	114.1	109.7	109.2	111.0	109.6	110.0	109.2
1976	98.1	96.5	97.6	93.6	96.6	98.8	92.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.6	107.3	107.0	107.9	106.3	105.6	107.9
1979	112.1	113.0	114.3	110.0	113.9	116.1	109.2
1980	102.7	109.8	107.3	115.7	113.5	113.0	114.5
1981	87.1	97.4	93.9	105.7	101.3	99.4	105.3
1982	67.0	78.8	70.7	97.9	82.3	75.2	97.4
1983	53.0	60.5	54.3	75.0	64.6	59.6	75.0
1984	62.3	66.5	63.1	74.3	67.9	65.2	73.7
1985	71.2	73.7	70.1	82.1	74.7	71.4	81.6
1986	67.0	69.0	65.2	77.9	70.0	66.5	77.6
1987 [1]	65.7	62.8	61.3	66.4	62.9	61.5	65.6
Average annual percent change:							
1958-87	-1.6	-1.3	-1.9	.5	-1.1	-1.7	.5
1982-87	2.1	-1.8	-2	-4.8	-2.8	-1.7	-4.9

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 222. Machine tool accessories (SIC 3545): Indexes of output per employee hour and output per employee, 1963–86

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	80.0	78.2	85.3	79.4	77.5	84.5
1964	81.2	79.2	86.7	81.2	79.4	85.8
1965	82.0	78.5	92.8	85.4	83.0	91.9
1966	82.0	77.1	98.7	87.4	83.8	97.6
1967	85.2	81.1	97.9	87.5	84.2	97.0
1968	83.0	81.8	86.6	83.9	82.2	88.6
1969	88.9	87.4	93.3	90.1	88.4	94.4
1970	82.0	82.3	81.4	79.9	79.1	81.7
1971	92.4	96.2	83.7	88.2	90.0	84.3
1972	100.1	101.0	97.8	100.1	100.6	99.0
1973	105.7	102.7	115.0	109.0	106.3	116.1
1974	104.2	101.5	112.4	105.7	102.9	113.4
1975	100.9	102.8	96.2	96.2	96.0	96.7
1976	98.8	100.1	95.6	97.2	97.7	95.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.6	103.0	105.0	105.0	105.0	105.0
1979	100.8	99.4	104.7	102.0	100.8	104.7
1980	99.2	99.2	98.9	98.3	98.1	98.9
1981	102.0	103.7	97.8	100.0	100.9	97.8
1982	89.1	97.2	73.2	83.6	88.7	73.2
1983	83.0	88.2	72.0	80.4	84.5	72.0
1984	95.4	96.7	92.4	95.8	97.4	92.4
1985	92.6	94.2	88.8	92.1	93.6	88.8
1986 [2]	95.4	98.8	87.7	93.2	95.7	87.7
Average annual percent change:						
1963-86	.7	1.1	-.1	.6	.8	-.1
1982-86	2.5	1.0	5.9	3.6	2.6	5.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 223. Machine tool accessories (SIC 3545): Indexes of output, employee hours, and employees, 1963–86

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	62.9	78.6	80.4	73.7	79.2	81.2	74.4
1964	68.5	84.4	86.5	79.0	84.4	86.3	79.8
1965	78.8	96.1	100.4	84.9	92.3	94.9	85.7
1966	90.7	110.6	117.7	91.9	103.8	108.2	92.9
1967	94.7	111.2	116.8	96.7	108.2	112.5	97.6
1968	87.5	105.4	107.0	101.0	104.3	106.5	98.8
1969	91.6	103.0	104.8	98.2	101.7	103.6	97.0
1970	74.4	90.7	90.4	91.4	93.1	94.0	91.1
1971	68.3	73.9	71.0	81.6	77.4	75.9	81.0
1972	80.7	80.6	79.9	82.5	80.6	80.2	81.5
1973	103.0	97.4	100.3	89.6	94.5	96.9	88.7
1974	108.6	104.2	107.0	96.6	102.7	105.5	95.8
1975	90.9	90.1	88.4	94.5	94.5	94.7	94.0
1976	90.7	91.8	90.6	94.9	93.3	92.8	94.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.1	109.2	109.8	107.7	107.7	107.7	107.7
1979	119.1	118.1	119.8	113.7	116.8	118.1	113.7
1980	118.9	119.9	119.8	120.2	120.9	121.2	120.2
1981	117.5	115.2	113.3	120.2	117.5	116.4	120.2
1982	84.6	94.9	87.0	115.5	101.2	95.4	115.5
1983	69.0	83.1	78.2	95.8	85.8	81.7	95.8
1984	89.6	93.9	92.7	97.0	93.5	92.0	97.0
1985	87.7	94.7	93.1	98.6	95.2	93.7	98.8
1986 [1]	85.6	89.7	86.6	97.6	91.8	89.4	97.6
Average annual percent change:							
1963-86	1.0	.3	-.1	1.2	.5	.2	1.1
1982-86	2.7	.2	1.7	-3.0	-.9	.1	-3.0

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 224. Pumps and compressors (SIC 3561, 3563): Indexes of output per employee hour and output per employee, 1963–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	78.2	75.5	84.0	80.2	78.5	83.5
1964	79.4	76.2	85.6	82.5	80.8	85.5
1965	81.0	77.2	88.8	83.8	81.1	88.7
1966	81.2	76.5	91.1	85.2	82.4	90.4
1967	82.5	78.9	89.6	85.1	83.0	88.8
1968	82.3	82.0	82.8	85.1	84.3	86.2
1969	86.3	84.5	89.6	88.8	87.1	91.8
1970	85.8	85.8	85.9	87.2	87.3	87.1
1971	87.1	89.8	82.8	87.4	89.4	84.1
1972	91.1	90.7	91.9	92.4	91.6	93.5
1973	97.9	95.9	101.4	99.1	96.7	103.3
1974	96.7	93.6	102.5	96.6	92.6	104.1
1975	91.4	92.2	89.9	90.7	90.6	90.9
1976	96.8	97.8	95.1	96.9	97.4	96.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.8	102.5	103.3	102.1	101.4	103.3
1979	102.9	102.5	103.6	102.0	100.7	104.0
1980	100.2	101.4	98.1	99.4	99.8	98.7
1981	102.4	106.2	96.2	101.2	104.2	98.5
1982	95.9	106.9	81.1	93.6	103.0	81.4
1983	100.2	114.9	81.8	96.5	108.2	81.8
1984	106.1	115.6	92.8	104.2	112.5	93.0
1985	106.8	116.8	92.8	104.8	113.6	93.0
1986 [2]	108.7	123.0	90.3	107.5	121.3	90.6
Average annual percent change:						
1958-86	1.7	2.2	1.0	1.5	1.9	1.0
1982-86	3.2	3.0	3.5	3.7	3.8	3.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 225. Pumps and compressors (SIC 3561, 3563): Indexes of output, employee hours, and employees, 1963–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	51.8	66.2	68.6	61.7	64.6	66.0	62.0
1964	59.0	74.3	77.4	68.9	71.5	73.0	69.0
1965	65.3	80.6	84.6	73.5	77.9	80.5	73.6
1966	70.6	86.9	92.3	77.5	82.9	85.7	78.1
1967	70.1	85.0	88.9	78.2	82.4	84.5	78.9
1968	68.3	83.0	83.3	82.5	80.3	81.0	79.2
1969	74.0	85.7	87.6	82.6	83.3	85.0	80.6
1970	74.8	87.2	87.2	87.1	85.8	85.7	85.9
1971	69.4	79.7	77.3	83.8	79.4	77.6	82.2
1972	76.2	83.6	84.0	82.9	82.5	83.2	81.5
1973	87.8	89.7	91.6	86.6	88.6	90.8	85.0
1974	94.0	97.2	100.4	91.7	97.3	101.5	90.3
1975	87.1	95.3	94.5	96.9	96.0	96.1	95.8
1976	91.4	94.4	93.5	96.1	94.3	93.8	95.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.3	104.4	104.7	103.9	105.1	105.8	103.9
1979	114.9	111.7	112.1	110.9	112.7	114.1	110.5
1980	113.2	113.0	111.6	115.4	113.9	113.4	114.7
1981	111.5	108.9	105.0	115.9	110.2	107.0	115.5
1982	98.7	102.9	92.3	121.7	105.5	95.8	121.3
1983	81.8	81.6	71.2	100.0	84.8	75.6	100.0
1984	93.6	88.2	81.0	100.9	89.8	83.2	100.6
1985	91.0	85.2	77.9	98.1	86.8	80.1	97.8
1986 [1]	86.1	79.2	70.0	95.4	80.1	71.0	95.0
Average annual percent change:							
1958-66	3.3	1.5	1.1	2.3	1.7	1.3	2.3
1982-86	-1.7	-4.7	-4.5	-4.9	-5.1	-5.3	-5.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 226. Pumps and pumping equipment (SIC 3561): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	90.8	89.9	92.5	91.9	90.8	94.0
1973	94.1	92.0	98.6	96.7	94.8	100.3
1974	93.6	90.6	99.6	93.5	89.7	101.1
1975	89.9	92.2	85.8	89.2	90.7	86.7
1976	92.7	94.6	89.6	93.2	94.8	90.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.4	101.5	101.2	100.2	99.6	101.1
1979	101.2	101.2	101.3	99.2	97.8	101.6
1980	97.7	99.5	94.4	96.2	96.8	95.0
1981	101.7	106.2	94.4	99.9	103.3	94.6
1982	93.1	104.5	77.3	90.1	99.7	77.5
1983	97.7	111.5	79.5	94.1	105.3	79.5
1984	104.4	113.5	90.9	102.3	110.3	91.0
1985	104.4	113.8	90.5	102.6	111.0	90.7
1986 [2]	105.5	118.6	87.7	104.4	117.3	87.9
Average annual percent change:						
1972-86	.9	2.0	-.8	.6	1.6	-.9
1982-86	3.2	2.8	3.9	3.9	3.9	3.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 227. Pumps and pumping equipment (SIC 3561): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	81.0	89.2	90.1	87.6	88.1	89.2	86.2
1973	91.7	97.4	99.7	93.0	94.8	96.7	91.4
1974	91.9	98.2	101.4	92.3	98.3	102.5	90.9
1975	90.4	100.6	98.0	105.4	101.4	99.7	104.3
1976	92.9	100.2	98.2	103.7	99.7	98.0	102.6
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.4	104.9	104.8	105.1	106.2	106.8	105.2
1979	112.1	110.8	110.8	110.7	113.0	114.6	110.3
1980	113.1	115.8	113.7	119.8	117.6	116.8	119.0
1981	114.2	112.3	107.5	121.0	114.3	110.6	120.7
1982	97.9	105.2	93.7	126.6	108.6	98.2	126.3
1983	81.2	83.1	72.8	102.1	86.3	77.1	102.2
1984	93.4	89.5	82.3	102.8	91.3	84.7	102.6
1985	90.7	86.9	79.7	100.2	88.4	81.7	100.0
1986 [1]	87.5	82.9	73.8	99.8	83.8	74.6	99.6
Average annual percent change:							
1972-86	.2	-.7	-1.7	1.0	-.4	-1.4	1.1
1982-86	-1.1	-4.2	-3.8	-4.8	-4.8	-4.8	-4.8

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 228. Ball and roller bearings (SIC 3562): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	73.5	72.4	77.5	71.7	70.3	76.7
1964	79.3	76.9	88.5	78.6	76.1	87.6
1965	90.0	86.3	105.0	91.9	88.6	103.9
1966	90.1	86.3	108.3	93.4	90.4	105.1
1967	86.7	84.1	96.8	87.9	85.6	95.8
1968	89.8	89.2	91.5	90.7	89.9	93.5
1969	87.8	86.5	92.2	88.9	87.6	93.4
1970	85.5	86.3	82.4	81.2	80.7	82.6
1971	88.6	90.6	82.3	85.4	86.4	82.9
1972	98.6	97.4	102.8	100.2	99.0	104.1
1973	103.1	100.5	112.8	106.8	104.8	113.9
1974	104.3	102.0	113.4	104.4	101.7	114.2
1975	97.5	97.9	96.1	95.3	94.9	96.5
1976	99.0	98.7	99.7	98.5	98.0	99.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.8	105.3	107.9	104.4	103.3	107.9
1979	105.8	103.6	114.2	106.3	104.1	114.2
1980	95.4	93.4	103.2	95.1	92.9	103.2
1981	94.3	93.2	97.9	94.0	92.8	97.9
1982	83.3	86.9	73.2	79.8	82.1	73.2
1983	86.3	88.4	79.3	86.2	88.4	79.3
1984	94.4	94.9	93.4	97.4	98.6	93.4
1985	92.1	93.2	88.5	93.4	95.0	88.5
1986	95.6	97.2	90.4	97.1	99.3	90.4
1987 [2]	101.2	100.1	105.3	103.7	103.2	105.3
Average annual percent change:						
1958-87	1.4	1.6	.8	1.5	1.7	.8
1982-87	3.7	2.8	6.4	4.8	4.2	6.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Anti Friction Bearing Manufacturers' Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 229. Ball and roller bearings (SIC 3562): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	68.5	93.2	94.6	88.4	95.6	97.4	89.3
1964	78.2	98.6	101.7	88.4	99.5	102.7	89.3
1965	95.2	105.8	110.3	90.7	103.6	107.5	91.6
1966	106.8	118.5	123.8	100.5	114.3	118.1	101.6
1967	100.2	115.6	119.2	103.5	114.0	117.0	104.6
1968	99.3	110.6	111.3	108.5	109.5	110.5	106.2
1969	102.0	116.2	117.9	110.6	114.7	116.5	109.2
1970	88.9	104.0	103.0	107.9	109.5	110.1	107.6
1971	81.0	91.4	89.4	98.4	94.8	93.8	97.7
1972	96.2	97.6	98.8	93.6	96.0	97.2	92.4
1973	111.3	108.0	110.8	98.7	104.2	106.2	97.7
1974	113.4	108.7	111.2	100.0	108.6	111.5	99.3
1975	93.6	96.0	95.6	97.4	98.2	98.6	97.0
1976	94.6	95.6	95.8	94.9	96.0	96.5	94.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.0	101.1	101.6	99.2	102.5	103.6	99.2
1979	112.5	106.3	108.6	98.5	105.8	108.1	98.5
1980	100.0	104.8	107.1	96.9	105.1	107.6	96.9
1981	97.9	103.8	105.0	100.0	104.2	105.5	100.0
1982	69.8	83.8	80.3	95.4	87.5	85.0	95.4
1983	67.2	77.9	76.0	84.7	78.0	76.0	84.7
1984	84.8	89.8	89.4	90.8	87.1	86.0	90.8
1985	78.3	85.0	84.0	88.5	83.8	82.4	88.5
1986	75.9	79.4	78.1	84.0	78.2	76.4	84.0
1987 [1]	77.9	77.0	77.8	74.0	75.1	75.5	74.0
Average annual percent change:							
1958-87	1.1	-.3	-.5	.3	-.4	-.6	.3
1982-87	2.4	-1.2	-.4	-3.7	-2.2	-1.8	-3.7

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Anti Friction Bearing Manufacturers' Association, the Bureau of the Census and the Bureau of Labor Statistics.

Table 230. Air and gas compressors (SIC 3563): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	92.1	93.7	89.7	93.2	94.3	91.5
1973	106.8	107.4	106.1	104.2	101.7	108.4
1974	103.0	100.0	108.1	103.0	98.7	110.2
1975	94.7	92.3	98.8	94.4	91.0	99.9
1976	106.4	105.9	107.3	105.5	103.6	108.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.5	104.4	107.3	106.1	105.2	107.4
1979	106.0	104.7	108.1	107.2	106.4	108.5
1980	105.5	105.8	105.1	106.5	106.8	106.1
1981	106.8	109.7	102.5	107.0	109.9	103.0
1982	102.0	112.4	88.8	101.0	110.8	80.3
1983	105.2	122.1	86.1	101.1	114.5	86.2
1984	109.7	119.9	96.3	108.1	117.2	96.9
1985	111.9	123.5	97.2	109.3	118.8	97.5
1986 [2]	115.0	133.2	94.5	113.5	130.3	95.2
Average annual percent change:						
1972-86	.9	2.1	-.7	.8	1.9	-.8
1982-86	3.1	3.6	2.5	3.2	3.7	2.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 231. Air and gas compressors (SIC 3563): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	66.7	72.4	71.2	74.4	71.6	70.7	72.9
1973	79.8	74.7	74.3	75.2	76.6	78.5	73.6
1974	98.2	95.3	98.2	90.8	95.3	99.5	89.1
1975	80.5	85.0	87.2	81.5	85.3	88.5	80.6
1976	88.4	83.1	83.5	82.4	83.8	85.3	81.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	109.1	103.4	104.5	101.7	102.8	103.7	101.6
1979	120.3	113.5	114.9	111.3	112.2	113.1	110.9
1980	113.5	107.6	107.3	108.0	106.6	106.3	107.0
1981	109.4	102.4	99.7	106.7	102.2	99.5	106.2
1982	100.4	98.4	89.3	113.0	99.4	90.6	112.4
1983	82.8	78.7	67.8	96.2	81.9	72.3	96.1
1984	93.9	85.6	78.3	97.5	86.9	80.1	96.9
1985	91.5	81.8	74.1	94.1	83.7	77.0	93.8
1986 [1]	82.6	71.8	62.0	87.4	72.8	63.4	56.8
Average annual percent change:							
1972-86	1.0	.1	-1.0	1.7	.2	-.9	1.8
1982-86	-2.9	-5.7	-6.2	-5.2	-5.8	-8.3	-5.3

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 232. Refrigeration and heating equipment (SIC 3585): Indexes of output per employee hour and output per employee, 1967–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1967	77.5	76.8	79.1	78.4	78.4	79.2
1968	82.3	82.5	81.8	83.2	82.9	83.6
1969	87.6	85.6	93.0	89.4	87.5	94.1
1970	88.4	87.1	91.3	87.9	86.5	91.7
1971	94.8	93.6	97.4	94.3	92.7	98.2
1972	103.0	99.5	112.9	105.9	102.7	114.3
1973	103.0	100.0	111.1	105.1	102.5	112.2
1974	106.9	105.7	109.7	106.8	105.2	110.7
1975	89.9	93.8	81.6	88.3	91.2	82.1
1976	94.1	93.4	96.0	95.5	95.2	96.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.2	98.4	104.5	102.5	101.6	104.6
1979	101.4	99.6	106.1	101.9	100.3	106.1
1980	93.8	96.2	88.8	93.4	95.4	88.8
1981	99.4	99.6	99.1	99.2	99.3	99.1
1982	100.1	103.4	93.2	98.8	101.2	93.2
1983	100.9	102.1	98.1	102.0	103.5	98.1
1984	105.5	102.8	112.9	108.8	107.2	112.9
1985	103.7	102.4	106.9	105.2	104.5	106.9
1986 [2]	101.5	98.9	108.7	103.6	101.5	108.7
Average annual percent change:						
1967-86	1.0	1.1	.9	1.0	1.1	.8
1982-86	.6	-.9	4.0	1.3	.2	4.0

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 233. Refrigeration and heating equipment (SIC 3585): Indexes of output, employee hours, and employees, 1967–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1967	53.6	69.2	69.8	67.8	68.4	68.4	68.5
1968	60.8	73.9	73.7	74.3	73.1	73.3	72.7
1969	73.0	83.3	85.3	78.5	81.7	83.4	77.6
1970	73.7	83.4	84.3	80.7	83.8	85.2	80.4
1971	75.9	80.1	81.1	77.9	80.5	81.9	77.3
1972	99.0	96.1	99.5	87.7	93.5	96.4	86.6
1973	112.5	109.2	112.5	101.3	107.0	109.8	100.3
1974	105.9	99.1	100.2	96.5	99.2	100.7	95.7
1975	69.7	77.5	74.3	85.4	78.9	76.4	84.9
1976	87.5	93.0	93.7	91.1	91.6	91.9	90.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	110.3	110.1	112.1	105.4	107.6	108.6	105.4
1979	111.5	110.0	112.0	105.1	109.4	111.2	105.1
1980	92.8	98.9	96.5	104.5	99.4	97.3	104.5
1981	100.5	101.1	100.9	101.4	101.3	101.2	101.4
1982	89.2	89.1	86.3	95.7	90.3	88.1	95.7
1983	93.7	92.9	91.8	95.5	91.9	90.5	95.5
1984	110.6	104.8	107.6	98.0	101.7	103.2	98.0
1985	107.9	104.1	105.4	100.9	102.6	103.3	100.9
1986 [1]	105.7	104.1	106.9	97.2	102.0	104.1	97.2
Average annual percent change:							
1967-86	2.6	1.6	1.5	1.7	1.6	1.5	1.6
1982-86	4.9	4.3	5.8	.9	3.6	4.8	.9

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 234. Carburetors, pistons, piston rings, and valves (SIC 3592): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	113.6	113.8	112.9	113.8	113.5	114.6
1973	120.4	119.3	124.9	121.7	120.5	126.9
1974	108.3	108.8	106.3	106.3	106.1	107.0
1975	100.1	102.8	89.3	94.7	95.8	89.3
1976	107.3	108.4	102.0	106.5	107.4	102.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	94.6	95.1	92.5	93.3	93.6	92.1
1979	94.6	94.2	96.4	94.0	93.5	96.4
1980	90.3	93.3	78.7	86.8	88.9	78.7
1981	91.7	93.1	85.6	88.2	88.8	86.0
1982	92.0	97.4	73.7	88.0	92.4	73.5
1983	99.6	102.9	86.3	99.0	102.7	86.0
1984	110.3	111.5	105.2	111.2	112.7	105.1
1985	114.0	116.8	102.8	112.9	115.7	102.5
1986 [2]	111.1	114.9	96.3	113.3	118.1	96.7
Average annual percent change:						
1972-86	-.4	-.1	-1.4	-.3	(3)	-1.5
1982-86	5.3	4.7	7.4	6.6	6.3	7.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 235. Carburetors, pistons, piston rings, and valves (SIC 3592): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	94.3	83.0	82.9	83.5	82.9	83.1	82.3
1973	122.8	102.0	102.9	98.3	100.9	101.9	98.8
1974	105.3	97.2	96.8	99.1	99.1	99.2	98.4
1975	87.0	86.9	84.6	97.4	91.9	90.8	96.8
1976	102.9	95.9	94.9	100.9	96.6	95.8	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	96.5	102.0	101.5	104.3	103.4	103.1	104.8
1979	105.7	111.7	112.2	109.6	112.4	113.1	109.7
1980	87.6	97.0	93.9	111.3	100.9	98.5	111.3
1981	90.1	98.3	96.8	105.2	102.2	101.5	104.8
1982	85.3	92.7	87.6	115.7	96.9	92.3	116.1
1983	91.6	92.0	89.0	106.1	92.5	89.2	106.5
1984	115.3	104.5	103.4	109.6	103.7	102.3	109.7
1985	110.8	97.2	94.9	107.8	98.1	95.8	106.1
1986 [1]	101.3	91.2	88.2	105.2	89.4	85.8	104.8
Average annual percent change:							
1972-86	-.1	.3	(2)	1.9	.2	-.1	1.4
1982-86	5.5	.2	.8	-1.7	-1.0	-.7	-1.9

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 236. Transformers (SIC 3612): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	67.5	67.6	67.1	67.1	68.5	64.2
1964	73.3	71.9	77.0	73.7	73.7	73.7
1965	79.9	77.0	87.4	81.1	80.0	83.7
1966	75.8	72.9	83.7	77.9	76.9	80.1
1967	75.5	73.0	82.1	76.7	75.9	78.6
1968	80.2	77.5	87.1	80.6	79.1	84.0
1969	88.6	85.1	97.7	89.6	87.3	95.3
1970	89.1	84.9	100.6	89.6	86.1	99.2
1971	94.4	90.1	105.8	92.8	88.6	104.4
1972	98.1	94.1	109.1	97.2	93.6	107.2
1973	96.9	91.5	112.4	96.9	92.1	110.2
1974	92.7	88.5	104.2	91.9	88.3	101.7
1975	89.3	92.0	83.9	86.6	88.6	82.4
1976	90.1	92.0	85.9	89.1	91.0	85.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.3	102.0	106.6	103.7	102.5	106.6
1979	108.4	105.8	114.8	108.6	106.1	114.8
1980	110.6	111.3	109.2	110.1	110.5	109.2
1981	106.9	106.0	109.2	107.1	106.3	109.2
1982	99.6	99.3	100.1	96.9	95.7	100.1
1983	99.1	99.7	97.8	99.1	99.7	97.8
1984	97.6	93.9	107.4	99.9	97.0	107.4
1985	99.3	95.4	109.7	101.7	98.7	109.7
1986	99.4	93.0	118.2	103.2	97.9	118.2
1987 [2]	94.6	88.1	114.2	97.4	91.6	114.2
Average annual percent change:						
1963-87	1.4	1.4	1.5	1.5	1.4	1.7
1982-87	-.7	-2.2	3.6	.5	-.7	3.6

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 237. Transformers (SIC 3612): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	51.9	76.9	76.8	77.3	77.3	75.8	80.8
1964	59.0	80.5	82.1	76.6	80.1	80.0	80.1
1965	69.6	87.1	90.4	79.6	85.8	87.0	83.2
1966	74.1	97.7	101.7	88.5	95.1	96.3	92.5
1967	79.5	105.3	108.9	96.8	103.7	104.8	101.2
1968	85.5	106.6	110.3	98.2	106.1	108.1	101.8
1969	92.3	104.2	108.5	94.5	103.0	105.7	96.9
1970	96.7	108.5	113.9	96.1	107.9	112.3	97.5
1971	97.8	103.6	108.5	92.4	105.4	110.4	93.7
1972	104.5	106.5	111.1	95.8	107.5	111.7	97.5
1973	115.7	119.4	126.5	102.9	119.4	125.6	105.0
1974	113.0	121.9	127.7	108.4	122.9	128.0	111.1
1975	85.5	95.7	92.9	101.9	98.7	96.5	103.7
1976	96.2	95.7	93.7	100.3	96.7	94.7	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	106.6	103.2	104.5	100.0	102.8	104.0	100.0
1979	112.0	103.9	106.4	98.1	103.7	106.1	98.1
1980	110.5	99.9	99.3	101.2	100.4	100.0	101.2
1981	108.5	101.5	102.4	99.4	101.3	102.1	99.4
1982	90.8	91.2	91.4	90.7	93.7	94.9	90.7
1983	89.3	90.1	89.6	91.3	90.1	89.6	91.3
1984	99.3	101.7	105.7	92.5	99.4	102.4	92.5
1985	99.5	100.2	104.3	90.7	97.6	100.8	90.7
1986	97.5	98.2	104.9	82.6	94.6	99.7	82.6
1987 [1]	89.4	94.5	101.5	78.3	91.8	97.6	78.3
Average annual percent change:							
1963-87	1.7	.2	.2	.2	.2	.3	(2)
1982-87	-.5	1.2	2.9	-3.0	.1	1.3	-3.0

[1] Preliminary.
[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 238. Switchgear and switchboard apparatus (SIC 3613): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	70.9	71.3	69.8	73.2	75.1	68.7
1964	70.2	72.4	64.6	74.1	78.9	64.0
1965	74.4	74.3	74.5	77.6	79.5	73.1
1966	78.7	76.8	84.5	82.8	82.9	82.8
1967	79.1	77.3	84.1	81.8	81.6	82.3
1968	79.1	78.8	79.7	82.0	82.7	80.1
1969	85.9	85.2	88.3	89.3	89.4	89.1
1970	83.3	84.1	81.0	86.1	87.5	82.7
1971	89.2	90.7	85.6	92.0	93.8	87.3
1972	96.3	97.1	94.4	98.2	99.2	95.8
1973	101.5	100.7	103.5	104.5	104.5	104.3
1974	97.1	96.2	99.8	98.4	98.0	99.6
1975	93.4	99.2	80.8	91.1	95.9	80.7
1976	95.3	99.1	86.5	93.6	96.4	87.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.0	102.3	101.2	102.2	102.6	101.3
1979	102.8	104.3	98.8	103.6	105.4	99.3
1980	103.2	107.9	92.6	104.2	109.2	93.3
1981	99.5	103.4	90.3	100.3	104.4	90.9
1982	101.3	109.6	84.1	99.9	107.2	84.6
1983	106.1	113.5	90.5	105.3	112.3	90.5
1984	107.4	115.3	91.0	108.2	116.4	91.5
1985	110.6	117.4	96.0	111.2	118.1	96.4
1986	110.7	118.3	94.3	111.3	119.3	94.9
1987 [2]	109.3	115.8	95.2	110.6	117.5	95.8
Average annual percent change:						
1963-87	1.8	2.2	1.0	1.6	1.8	1.1
1982-87	1.5	1.2	2.3	2.0	1.9	2.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 239. Switchgear and switchboard apparatus (SIC 3613): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	54.9	77.4	77.0	78.6	75.0	73.1	79.9
1964	57.5	81.9	79.4	88.8	77.6	72.9	89.9
1965	62.1	83.5	83.6	83.4	80.0	78.1	84.9
1966	74.4	94.5	96.9	88.0	89.9	89.8	89.9
1967	77.8	98.4	100.6	92.5	95.1	95.4	94.5
1968	73.7	93.2	93.5	92.5	89.9	89.1	92.0
1969	83.8	97.5	98.4	94.9	93.8	93.7	94.0
1970	80.6	96.8	95.8	99.5	93.6	92.1	97.5
1971	83.8	93.9	92.4	97.9	91.1	89.3	96.0
1972	94.4	98.0	97.2	100.0	96.1	95.2	98.5
1973	106.0	106.4	107.2	104.3	103.3	103.3	103.5
1974	100.1	103.1	104.1	100.3	101.7	102.1	100.5
1975	81.9	87.7	82.6	101.3	89.9	85.4	101.5
1976	84.9	89.1	85.7	98.1	90.7	88.1	97.5
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	107.5	105.4	105.1	106.2	105.2	104.8	106.1
1979	110.9	107.9	106.3	112.2	107.0	105.2	111.7
1980	105.6	102.3	97.9	114.1	101.3	96.7	113.2
1981	99.6	100.1	96.3	110.3	99.3	95.4	109.6
1982	92.3	91.1	84.2	109.7	92.4	86.1	109.1
1983	91.9	86.6	81.0	101.6	87.3	81.8	101.5
1984	95.2	88.6	82.6	104.6	88..	81.8	104.1
1985	90.5	81.8	77.1	94.3	81.4	76.6	93.9
1986	86.7	78.3	73.3	91.9	77.9	72.7	91.4
1987 [1]	88.0	80.5	76.0	92.4	79.6	74.9	91.9
Average annual percent change:							
1963-87	1.8	-.1	-.4	.7	.1	-.1	.6
1982-87	-1.3	-2.8	-2.5	-3.5	-3.3	-3.1	-3.6

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 240. Motors and generators (SIC 3621): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	74.7	77.1	67.3	76.3	80.2	66.0
1964	82.5	85.2	74.3	84.8	89.1	73.3
1965	88.3	88.6	87.1	90.6	92.3	85.5
1966	90.3	88.3	97.6	91.1	89.9	95.4
1967	87.1	87.1	86.8	88.4	89.6	84.9
1968	89.2	89.8	87.3	91.7	93.0	87.6
1969	89.8	90.2	88.1	92.6	93.8	88.9
1970	87.8	89.5	82.2	88.3	89.8	84.0
1971	94.8	96.9	87.8	96.3	98.5	89.5
1972	95.7	95.5	96.7	97.9	97.9	98.1
1973	100.7	98.0	110.2	101.6	99.2	110.8
1974	100.1	98.8	104.6	99.9	98.7	104.1
1975	93.0	96.3	83.3	92.7	96.1	83.1
1976	95.9	94.6	100.6	95.1	93.4	101.0
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.3	98.5	102.0	98.8	97.9	101.9
1979	99.3	99.6	98.1	99.6	100.0	98.4
1980	96.7	100.2	86.4	96.7	100.1	87.0
1981	100.4	102.3	94.2	99.8	101.6	94.5
1982	102.4	109.4	84.0	98.8	104.4	84.3
1983	104.3	107.6	94.4	101.8	104.3	94.5
1984	107.9	109.8	101.6	107.9	110.0	101.8
1985	110.5	113.9	100.0	109.4	112.5	100.5
1986	112.3	117.4	98.0	111.5	116.3	98.3
1987 [2]	115.9	121.9	99.2	115.2	121.1	98.7
Average annual percent change:						
1954-87	2.4	2.3	2.6	2.3	2.2	2.7
1982-87	2.5	2.4	2.7	3.1	3.2	2.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 241. Motors and generators (SIC 3621): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	74.2	99.3	96.2	110.3	97.2	92.5	112.4
1964	83.0	100.6	97.4	111.7	97.9	93.2	113.3
1965	95.3	107.9	107.6	109.4	105.2	103.3	111.5
1966	105.6	116.9	119.6	108.2	115.9	117.5	110.7
1967	102.9	118.2	118.2	118.5	116.4	114.9	121.2
1968	103.5	116.0	115.2	118.5	112.9	111.3	118.2
1969	104.6	116.5	116.0	118.7	112.9	111.5	117.7
1970	94.7	107.9	105.8	115.2	107.2	105.5	112.8
1971	93.1	98.2	96.1	106.0	96.7	94.5	104.0
1972	91.2	95.3	95.5	94.3	93.2	93.2	93.0
1973	105.5	104.8	107.7	95.7	103.8	106.4	95.2
1974	103.3	103.2	104.6	98.8	103.4	104.7	99.2
1975	78.4	84.3	81.4	94.1	84.6	81.6	94.3
1976	89.0	92.9	94.1	88.5	93.6	95.3	88.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.2	109.0	109.9	106.1	109.5	110.5	106.2
1979	110.1	110.9	110.5	112.2	110.5	110.1	111.9
1980	93.9	97.1	93.7	108.7	97.1	93.8	107.9
1981	96.2	95.8	94.0	102.1	96.4	94.7	101.8
1982	85.8	83.8	78.4	102.1	86.8	82.2	101.8
1983	84.5	81.0	78.5	89.5	83.0	81.0	89.4
1984	93.8	86.9	85.4	92.3	86.9	85.3	92.1
1985	87.6	79.3	76.9	87.6	80.1	77.9	87.2
1986	87.0	77.5	74.1	88.8	78.0	74.8	88.5
1987 [1]	87.4	75.4	71.7	88.1	75.9	72.2	87.7
Average annual percent change:							
1954-87	1.4	-1.0	-.9	-1.2	-.9	-.8	-1.3
1982-87	.3	-2.1	-2.0	-2.3	-2.6	-2.8	-2.3

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 242. Major household appliances (SIC 3631, 3632, 3633, 3639): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	57.9	57.7	59.1	59.6	60.0	58.0
1964	60.4	59.9	62.5	62.6	62.8	61.5
1965	62.2	61.9	63.4	65.0	65.7	62.2
1966	62.4	61.2	67.8	64.0	63.4	66.2
1967	66.0	65.7	67.7	66.5	66.7	66.2
1968	69.5	68.6	73.7	71.3	70.7	74.0
1969	71.9	71.9	71.8	72.6	72.8	72.4
1970	70.2	70.5	69.1	71.6	71.9	70.4
1971	80.1	80.7	77.5	81.7	82.4	79.2
1972	87.9	87.2	91.0	89.5	89.0	92.4
1973	89.5	88.5	94.1	90.7	89.8	94.7
1974	89.6	90.3	87.0	88.4	89.0	86.7
1975	93.6	96.0	84.6	91.7	93.6	84.5
1976	96.6	99.1	88.0	95.9	98.0	88.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.4	100.3	101.0	98.1	97.5	100.9
1979	108.7	108.9	107.7	107.7	107.7	107.9
1980	105.8	106.9	101.5	103.6	104.1	102.0
1981	107.6	107.8	107.2	105.4	105.0	107.4
1982	108.6	112.7	93.8	104.5	107.5	93.9
1983	117.6	117.3	118.7	119.3	119.5	118.5
1984	123.6	120.8	137.4	125.7	123.2	137.8
1985	127.2	126.7	129.8	127.8	127.3	130.1
1986	134.1	131.9	144.0	135.5	133.6	144.6
1987 [2]	139.2	135.3	158.3	138.7	134.7	158.5
Average annual percent change:						
1958-87	4.2	4.1	4.5	4.0	3.9	4.6
1982-87	4.9	3.8	9.4	5.3	4.4	9.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 243. Major household appliances (SIC 3631, 3632, 3633, 3639): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	58.0	100.1	100.6	98.1	97.3	96.7	100.0
1964	64.4	106.6	107.6	103.0	102.9	102.5	104.7
1965	69.8	112.2	112.7	110.1	107.4	106.2	112.2
1966	73.5	117.8	120.1	108.4	114.9	115.9	111.0
1967	75.4	114.2	114.8	111.4	113.3	113.0	113.9
1968	83.6	120.3	121.9	113.4	117.3	118.3	112.9
1969	83.6	116.3	116.2	116.5	115.2	114.9	115.5
1970	80.6	114.8	114.4	116.7	112.6	112.1	114.5
1971	76.2	95.1	94.4	98.3	93.3	92.5	96.2
1972	88.4	100.6	101.4	97.1	98.8	99.3	95.7
1973	96.2	107.5	108.7	102.2	106.1	107.1	101.6
1974	86.2	96.2	95.5	99.1	97.5	96.8	99.4
1975	79.5	84.9	82.8	94.0	86.7	84.9	94.1
1976	88.5	91.6	89.3	100.6	92.3	90.3	100.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.1	103.7	103.8	103.1	106.1	106.8	103.2
1979	106.7	98.2	98.0	99.1	99.1	99.1	98.9
1980	97.1	91.8	90.8	95.7	93.7	93.3	95.2
1981	97.1	90.2	90.1	90.6	92.1	92.5	90.4
1982	83.4	76.8	74.0	88.9	79.8	77.6	88.8
1983	98.2	83.5	83.7	82.7	82.3	82.2	82.9
1984	110.5	89.4	91.5	80.4	87.9	89.7	80.2
1985	105.8	83.2	83.5	81.5	82.8	83.1	81.3
1986	112.9	84.2	85.6	78.4	83.3	84.5	78.1
1987 [1]	118.7	85.3	87.7	75.0	85.6	88.1	74.9
Average annual percent change:							
1958-87	3.1	-1.0	-.9	-1.4	-.9	-.7	-1.4
1982-87	6.3	1.4	2.4	-2.8	.9	1.8	-2.9

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 244. Household cooking equipment (SIC 3631): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	59.5	56.3	72.2	61.5	58.8	71.4
1964	60.1	57.9	68.3	60.9	58.9	68.1
1965	63.1	59.4	78.1	65.4	62.5	76.8
1966	62.4	58.6	78.3	64.3	61.1	76.8
1967	62.3	59.4	73.6	62.9	60.3	72.3
1968	67.7	63.9	82.4	69.8	66.4	83.1
1969	70.7	68.2	79.6	72.2	69.9	80.6
1970	68.7	66.4	76.8	70.1	67.8	78.6
1971	75.0	72.7	83.5	77.2	74.9	85.4
1972	80.3	76.4	96.0	83.3	79.3	98.2
1973	84.9	80.3	102.9	88.0	83.8	103.8
1974	87.9	87.2	89.7	86.2	85.2	89.5
1975	97.8	98.4	95.7	95.2	95.2	95.6
1976	100.7	101.3	98.4	100.9	101.3	99.7
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.5	98.5	106.7	98.5	95.9	106.8
1979	108.9	110.2	104.8	110.0	111.5	106.0
1980	103.9	103.5	105.5	107.5	107.6	107.0
1981	105.7	103.0	114.9	109.6	107.7	115.9
1982	112.6	119.5	95.4	109.2	114.5	95.9
1983	120.8	121.1	119.5	124.4	125.8	120.2
1984	131.9	127.0	149.3	135.7	131.5	150.5
1985	135.6	133.5	142.4	136.7	134.5	144.0
1986	158.4	156.8	164.0	158.9	156.9	165.2
1987 [2]	168.1	164.5	180.1	165.5	160.9	181.0
Average annual percent change:						
1958-87	4.0	4.2	3.5	4.0	4.1	3.6
1982-87	8.5	7.2	12.4	8.4	7.1	12.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 245. Household cooking equipment (SIC 3631): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	46.5	78.1	82.6	64.4	75.6	79.1	65.1
1964	47.5	79.0	82.1	69.5	78.0	80.6	69.8
1965	53.6	84.9	90.2	68.6	81.9	85.8	69.8
1966	52.4	84.0	89.4	66.9	81.5	85.8	68.2
1967	50.5	81.0	85.0	68.6	80.3	83.8	69.8
1968	58.0	85.7	90.7	70.4	83.1	87.4	69.8
1969	61.4	86.8	90.0	77.1	85.1	87.9	76.2
1970	59.9	87.2	90.2	78.0	85.5	88.4	76.2
1971	65.1	86.8	89.6	78.0	84.3	86.9	76.2
1972	76.4	95.1	100.0	79.6	91.7	96.3	77.8
1973	87.3	102.8	108.7	84.8	99.2	104.2	84.1
1974	75.3	85.7	86.4	83.9	87.4	88.4	84.1
1975	69.8	71.4	70.9	72.9	73.2	73.3	73.0
1976	91.7	91.1	90.5	93.2	90.9	90.5	92.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	108.5	108.0	110.1	101.7	110.2	113.1	101.6
1979	126.1	115.8	114.4	120.3	114.6	113.1	119.0
1980	118.9	114.4	114.9	112.7	110.6	110.5	111.1
1981	117.8	111.5	114.4	102.5	107.5	109.4	101.6
1982	101.9	90.5	85.3	106.8	93.3	99.0	106.3
1983	129.7	107.4	107.1	108.5	104.3	103.1	107.9
1984	148.1	112.3	116.6	99.2	109.1	112.6	98.4
1985	130.3	96.1	97.6	91.5	95.3	96.9	90.5
1986	138.9	87.7	88.6	84.7	87.4	88.5	84.1
1987 [1]	146.6	87.2	89.1	81.4	88.6	91.1	81.0
Average annual percent change:							
1958-87	5.2	1.2	1.0	1.6	1.2	1.1	1.6
1982-87	5.6	-2.7	-1.5	-6.0	-2.6	-1.4	-6.1

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 246. Household refrigerators and freezers (SIC 3632): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	55.5	55.9	53.3	57.1	58.3	52.2
1964	59.5	59.2	60.7	62.0	62.6	59.5
1965	61.4	61.3	61.7	64.6	65.6	60.5
1966	62.1	61.1	67.5	63.4	63.0	65.8
1967	67.7	67.6	68.0	67.9	68.2	66.2
1968	70.9	70.6	72.2	72.5	72.6	72.4
1969	74.1	74.8	71.1	75.3	76.1	71.6
1970	71.7	72.4	68.6	73.4	74.2	69.8
1971	87.2	87.7	85.3	88.1	88.3	87.2
1972	96.0	95.1	100.1	97.6	97.0	101.4
1973	95.6	95.9	94.1	97.0	97.5	94.9
1974	96.8	97.9	90.7	98.4	100.4	89.9
1975	94.5	97.9	80.1	93.0	96.3	79.9
1976	94.0	97.6	79.4	92.4	95.5	79.9
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	98.4	97.9	100.9	96.3	95.4	101.0
1979	112.3	110.3	123.6	109.8	107.3	123.6
1980	114.4	114.4	114.3	106.4	104.3	115.6
1981	117.4	117.4	116.9	107.9	106.4	116.7
1982	116.1	118.7	104.1	110.4	112.0	103.6
1983	127.1	127.1	127.7	127.1	127.1	128.0
1984	127.5	125.4	138.7	124.6	121.9	139.2
1985	136.8	139.1	127.2	133.7	135.0	128.2
1986	133.5	132.3	140.2	133.7	132.5	141.1
1987 [2]	131.6	126.6	164.7	131.8	126.8	164.4
Average annual percent change:						
1958-87	4.6	4.6	4.8	4.3	4.2	4.9
1982-87	2.4	1.6	7.4	3.2	2.5	7.5

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 247. Household refrigerators and freezers (SIC 3632): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	68.8	124.0	123.0	129.1	120.4	118.1	131.7
1964	79.4	133.5	134.2	130.9	128.0	126.8	133.4
1965	87.8	143.0	143.2	142.4	135.9	133.9	145.1
1966	95.5	153.7	156.2	141.5	150.7	151.7	145.1
1967	100.5	148.4	148.6	147.7	148.1	147.3	151.7
1968	111.1	156.7	157.4	153.9	153.2	153.0	153.4
1969	107.5	145.0	143.8	151.3	142.8	141.2	150.1
1970	100.1	139.6	138.3	145.9	136.4	134.9	143.4
1971	80.0	91.7	91.2	93.8	90.8	90.6	91.7
1972	93.0	96.9	97.8	92.9	95.3	95.9	91.7
1973	94.9	99.3	99.0	100.9	97.8	97.3	100.0
1974	89.9	92.9	91.8	99.1	91.4	89.5	100.0
1975	89.2	94.4	91.1	111.4	95.9	92.6	111.7
1976	86.5	92.0	88.6	108.9	93.6	90.6	108.3
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.7	104.4	104.9	101.8	106.7	107.7	101.7
1979	88.6	78.9	80.3	71.7	80.7	82.6	71.7
1980	80.9	70.7	70.7	70.8	76.0	77.2	70.0
1981	81.7	69.6	69.6	69.9	75.7	76.8	70.0
1982	69.1	59.5	58.2	66.4	62.6	61.7	66.7
1983	74.6	58.7	58.7	58.4	58.7	58.7	58.3
1984	83.5	65.5	66.6	60.2	67.0	68.5	60.0
1985	83.3	60.9	59.9	65.5	62.3	61.7	65.0
1986	89.3	66.9	67.5	63.7	66.8	67.4	63.3
1987 [1]	93.2	70.8	73.6	56.6	70.7	73.5	56.7
Average annual percent change:							
1958-87	1.4	-3.1	-3.0	-3.3	-2.8	-2.7	-3.4
1982-87	6.0	3.5	4.3	-1.3	2.7	3.4	-1.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 248. Household laundry equipment (SIC 3633): indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	61.3	61.5	60.3	63.9	65.2	58.6
1964	60.8	60.5	61.9	64.2	65.0	60.6
1965	61.5	64.4	51.1	65.1	69.6	50.2
1966	63.5	64.2	60.4	66.1	68.0	58.6
1967	67.1	67.9	63.5	68.1	69.6	61.9
1968	69.0	68.7	70.1	71.0	71.2	70.0
1969	69.4	69.6	68.0	69.4	69.5	68.8
1970	70.7	72.0	65.4	72.3	73.5	67.0
1971	78.3	79.2	74.6	82.1	83.4	76.1
1972	83.2	82.6	85.6	85.3	84.9	86.3
1973	88.5	87.7	92.1	90.6	90.0	92.9
1974	85.0	86.2	79.9	82.1	82.6	79.6
1975	93.6	95.3	86.4	91.0	92.1	86.0
1976	99.0	100.6	92.8	98.6	100.0	92.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.3	102.3	102.6	101.6	101.3	102.6
1979	108.1	106.6	115.5	108.1	106.7	115.3
1980	102.1	102.7	99.2	100.2	100.5	99.2
1981	103.9	103.6	105.4	101.6	100.9	105.0
1982	105.4	107.4	97.3	100.5	101.4	96.5
1983	112.2	108.6	131.7	113.0	109.7	131.4
1984	117.5	113.4	140.3	120.9	117.4	140.1
1985	118.2	115.4	132.5	120.0	117.4	133.0
1986	123.1	118.4	149.5	128.9	125.0	149.9
1987 [2]	133.0	127.3	166.3	136.8	131.7	166.1
Average annual percent change:						
1958-87	3.9	3.5	5.4	3.7	3.3	5.5
1982-87	4.2	3.3	9.0	5.7	5.0	9.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 249. Household laundry equipment (SIC 3633): indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	60.3	98.4	98.1	100.0	94.3	92.5	102.9
1964	67.5	111.1	111.6	109.1	105.1	103.8	111.4
1965	70.4	114.5	109.3	137.8	108.2	101.2	140.1
1966	78.7	123.9	122.5	130.3	113.1	115.8	134.3
1967	77.9	116.1	114.7	122.7	114.4	112.0	125.8
1968	86.0	124.7	125.2	122.7	121.2	120.8	122.9
1969	86.5	124.7	124.2	127.2	124.7	124.5	125.8
1970	82.3	116.4	114.3	125.8	113.8	112.0	122.9
1971	89.2	113.9	112.6	119.6	108.7	106.9	117.2
1972	103.7	124.7	125.6	121.2	121.6	122.1	120.1
1973	111.6	126.1	127.3	121.2	123.2	124.0	120.1
1974	95.6	112.5	110.9	119.6	116.5	115.8	120.1
1975	81.1	86.6	85.1	93.9	89.1	88.1	94.3
1976	89.9	90.8	89.4	96.9	91.2	89.9	97.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.6	100.3	100.3	100.0	101.0	101.3	100.0
1979	112.0	103.6	105.1	97.0	103.6	105.0	97.1
1980	99.2	97.2	96.6	100.0	99.0	98.7	100.0
1981	99.0	95.3	95.6	93.9	97.4	98.1	94.3
1982	85.5	81.1	79.6	87.9	85.1	84.3	88.6
1983	93.8	83.6	86.4	71.2	83.0	85.5	71.4
1984	104.1	88.6	91.8	74.2	86.1	88.7	74.3
1985	106.4	90.0	92.2	80.3	88.7	90.6	80.0
1986	115.6	93.9	97.6	77.3	89.7	92.5	77.1
1987 [1]	123.4	92.8	96.9	74.2	90.2	93.7	74.3
Average annual percent change:							
1958-87	2.5	-1.3	-1.0	-2.8	-1.2	-.7	-2.8
1982-87	7.4	3.0	3.9	-1.5	1.6	2.3	-1.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 250. Household appliances, not elsewhere classified (SIC 3639): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	63.8	67.8	50.1	64.5	69.6	48.8
1964	69.0	73.4	54.2	69.8	75.3	52.8
1965	70.4	73.1	60.2	71.4	74.9	59.1
1966	65.6	68.4	55.3	67.3	71.5	53.5
1967	67.6	72.4	51.9	69.6	76.1	50.7
1968	72.5	76.5	58.4	74.2	79.1	57.8
1969	73.1	78.6	55.2	73.7	79.5	55.6
1970	70.4	74.8	55.2	70.8	75.3	55.8
1971	76.2	82.3	57.0	75.9	81.7	57.6
1972	90.8	96.8	70.4	90.4	96.4	70.8
1973	85.2	86.7	78.9	82.6	83.6	78.5
1974	84.5	85.3	80.6	81.9	82.4	79.5
1975	88.8	93.4	72.4	87.0	91.6	71.3
1976	93.0	95.7	82.4	92.5	95.1	82.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.2	106.3	90.9	98.1	100.2	90.1
1979	102.6	103.9	97.3	99.5	100.3	96.4
1980	99.1	101.5	89.3	95.8	97.4	89.6
1981	100.4	102.2	93.1	98.4	99.6	93.3
1982	94.7	96.5	86.6	92.4	93.7	86.4
1983	103.7	101.7	113.3	105.0	103.3	112.8
1984	109.8	106.0	131.8	113.8	110.5	130.9
1985	110.0	108.2	119.4	113.0	111.6	119.2
1986	113.1	110.9	124.3	112.6	110.3	124.0
1987 [2]	117.3	116.0	123.9	113.8	111.7	123.9
Average annual percent change:						
1958-87	3.0	2.5	4.9	2.9	2.4	5.0
1982-87	3.9	3.5	5.8	3.6	3.1	5.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 251. Household appliances, not elsewhere classified (SIC 3639): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	53.8	84.3	79.3	107.3	83.4	77.3	110.3
1964	58.2	84.3	79.3	107.3	83.4	77.3	110.3
1965	59.1	83.9	80.9	98.2	82.8	78.9	100.0
1966	55.3	84.3	80.9	100.0	82.2	77.3	103.4
1967	59.4	87.9	82.1	114.5	85.3	78.1	117.2
1968	63.7	87.9	83.3	109.0	85.9	80.5	110.3
1969	65.2	89.2	82.9	118.2	88.5	82.0	117.2
1970	71.2	101.2	95.2	129.1	100.6	94.5	127.5
1971	71.5	93.8	86.9	125.4	94.2	87.5	124.2
1972	80.6	88.8	83.3	114.5	89.2	83.6	113.8
1973	94.7	111.1	109.2	120.0	114.6	113.3	120.6
1974	85.0	100.6	99.7	105.5	103.8	103.1	106.9
1975	73.7	83.0	78.9	101.8	84.7	80.5	103.4
1976	85.4	91.8	89.2	103.7	92.3	89.8	103.4
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	99.3	96.4	112.7	104.5	102.3	113.8
1979	109.7	106.9	105.6	112.7	110.2	109.4	113.8
1980	95.8	96.7	94.4	107.3	100.0	98.4	106.9
1981	96.5	96.1	94.4	103.6	98.1	96.9	103.4
1982	83.5	88.2	86.5	96.4	90.4	89.1	96.6
1983	105.0	101.3	103.2	92.7	100.0	101.6	93.1
1984	117.4	106.9	110.8	89.1	103.2	106.2	89.7
1985	115.1	104.6	106.4	96.4	101.9	103.1	96.6
1986	119.8	105.9	108.0	96.4	106.4	108.6	96.6
1987 [1]	123.9	105.6	106.8	100.0	106.9	110.9	100.0
Average annual percent change:							
1958-87	3.8	.8	1.3	-1.0	.9	1.4	-1.1
1982-87	6.9	2.9	3.3	1.1	3.2	3.7	1.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 252. Electric lamps (SIC 3641): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	80.8	80.8	82.0	80.1	80.2	79.5
1964	83.4	83.4	84.0	82.4	82.6	81.3
1965	88.7	88.0	94.4	88.7	88.4	91.3
1966	89.3	88.0	100.1	89.4	88.3	96.9
1967	87.5	86.8	93.1	85.2	84.5	90.2
1968	90.4	89.6	97.0	89.0	88.2	94.6
1969	89.4	89.2	91.2	87.1	86.8	90.0
1970	88.3	87.3	96.9	87.5	86.4	96.7
1971	87.5	86.9	92.1	85.8	84.9	91.9
1972	92.8	91.6	101.9	92.5	91.2	101.6
1973	90.1	88.5	103.5	89.9	88.3	102.9
1974	89.9	89.5	91.7	87.7	87.3	90.8
1975	96.4	96.9	93.5	94.7	94.9	92.8
1976	102.9	102.7	103.5	103.7	103.7	103.1
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.5	102.1	105.2	103.8	103.6	105.2
1979	105.2	104.1	113.8	105.7	104.6	113.8
1980	103.2	102.7	106.6	101.8	101.1	106.6
1981	106.9	107.1	105.4	106.6	106.7	105.4
1982	108.4	108.4	108.5	107.0	106.7	108.5
1983	124.8	124.6	125.6	128.7	129.3	125.6
1984	131.9	132.9	124.7	134.4	136.0	124.7
1985	126.9	129.0	114.2	127.2	129.3	114.2
1986	131.1	134.3	112.3	131.1	134.3	112.3
1987 [2]	146.9	150.5	125.4	146.0	149.3	125.4
Average annual percent change:						
1954-87	2.1	2.1	2.0	2.2	2.2	2.1
1982-87	4.8	5.4	.9	4.5	5.1	.9

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 253. Electric lamps (SIC 3641): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	62.6	77.5	77.5	76.3	78.2	78.1	78.7
1964	65.8	78.9	78.9	78.3	79.9	79.7	80.9
1965	73.9	83.3	84.0	78.3	83.3	83.6	80.9
1966	82.5	92.4	93.8	82.4	92.3	93.4	85.1
1967	82.5	94.3	95.1	88.6	96.8	97.6	91.5
1968	90.6	100.2	101.1	93.4	101.8	102.7	95.8
1969	88.1	98.5	98.8	96.6	101.1	101.5	97.9
1970	88.5	100.2	101.4	91.3	101.1	102.4	91.5
1971	88.0	100.6	101.3	95.6	102.6	103.6	95.8
1972	99.5	107.2	108.6	97.6	107.6	109.1	97.9
1973	105.1	116.6	118.7	101.5	116.9	119.0	102.1
1974	96.6	107.5	107.9	105.3	110.1	110.6	106.4
1975	88.9	92.2	91.7	95.1	93.9	93.7	95.8
1976	100.9	98.1	98.2	97.5	97.3	97.3	97.9
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	103.0	100.5	100.9	97.9	99.2	99.4	97.9
1979	106.5	101.2	102.3	93.6	100.8	101.8	93.6
1980	97.5	94.5	94.9	91.5	95.8	96.4	91.5
1981	91.9	86.0	85.8	87.2	86.2	86.1	87.2
1982	85.4	78.8	78.8	78.7	79.8	80.0	78.7
1983	93.6	75.0	75.1	74.5	72.7	72.4	74.5
1984	100.9	76.5	75.9	80.9	75.1	74.2	80.9
1985	94.8	74.7	73.5	83.0	74.5	73.3	83.0
1986	93.2	71.1	69.4	83.0	71.1	69.4	83.0
1987 [1]	98.7	67.2	65.6	78.7	67.6	66.1	78.7
Average annual percent change:							
1954-87	2.5	.4	.4	.5	.3	.3	.4
1982-87	1.9	-2.8	-3.3	1.0	-2.6	-3.1	1.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 254. Lighting fixtures (SIC 3645, 3646, 3647, 3648): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	67.5	63.9	81.2	69.2	66.3	79.8
1964	69.0	66.0	80.0	70.2	67.7	78.7
1965	72.3	67.5	91.2	74.9	71.0	89.7
1966	74.4	70.1	91.7	75.8	72.1	89.8
1967	74.1	70.7	86.7	75.8	73.2	84.6
1968	76.2	73.5	85.8	79.0	76.8	86.2
1969	80.1	77.8	88.5	82.2	80.1	89.3
1970	78.1	77.3	80.8	80.0	79.1	82.6
1971	83.7	82.1	88.9	84.3	82.3	90.7
1972	90.7	88.3	99.0	92.9	90.7	100.5
1973	93.8	89.9	107.4	95.3	91.6	108.2
1974	90.3	89.0	94.8	90.6	89.4	94.4
1975	89.2	90.1	86.7	88.8	89.6	86.6
1976	95.1	93.5	100.7	94.7	92.7	101.2
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.4	99.2	103.8	100.2	99.1	104.0
1979	94.6	94.4	95.2	95.0	94.8	95.6
1980	93.3	95.2	88.2	93.3	95.0	88.7
1981	88.7	90.6	83.4	89.6	91.8	83.7
1982	91.0	93.3	85.0	90.9	93.0	85.3
1983	96.3	95.5	98.2	97.3	97.1	98.0
1984	102.2	100.9	106.1	103.8	102.9	106.5
1985	107.0	107.1	106.5	107.3	107.5	106.7
1986	113.8	116.0	107.7	115.8	118.8	108.0
1987 [2]	116.5	118.7	110.1	118.7	121.7	110.8
Average annual percent change:						
1961-87	2.0	2.3	.9	1.9	2.2	1.0
1982-87	5.2	5.4	4.6	5.5	5.9	4.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 255. Lighting fixtures (SIC 3645, 3646, 3647, 3648): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	56.0	63.0	67.6	69.0	80.9	84.5	70.2
1964	60.0	67.0	70.9	75.0	85.5	88.6	76.2
1965	69.3	75.9	102.6	76.0	92.5	97.6	77.3
1966	73.7	99.0	105.2	80.4	97.2	102.2	82.1
1967	73.5	99.2	104.0	84.8	97.0	100.4	86.9
1968	79.0	103.7	107.5	92.1	100.0	102.8	91.7
1969	88.8	110.8	114.2	100.3	108.0	110.8	99.4
1970	82.6	105.8	106.9	102.2	103.3	104.4	100.0
1971	85.8	102.5	104.5	96.5	101.8	104.2	94.6
1972	99.9	110.1	113.1	100.9	107.5	110.2	99.4
1973	108.2	115.4	120.3	100.7	113.5	118.1	100.0
1974	92.1	102.0	103.5	97.2	101.8	103.0	97.6
1975	76.8	86.1	85.2	88.6	86.5	85.7	88.7
1976	89.2	93.8	95.4	88.6	94.2	96.2	88.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	105.2	104.8	106.0	101.3	105.0	106.2	101.2
1979	105.8	111.8	112.1	111.1	111.4	111.6	110.7
1980	98.2	105.2	103.2	111.4	105.3	103.4	110.7
1981	94.7	106.8	104.5	113.6	105.7	103.2	113.1
1982	90.4	99.3	96.9	106.3	99.4	97.2	106.0
1983	100.4	104.3	105.1	102.2	103.2	103.4	102.4
1984	107.8	105.5	106.8	101.6	103.9	104.8	101.2
1985	111.2	103.9	103.8	104.4	103.6	103.4	104.2
1986	120.9	106.2	104.2	112.3	104.4	101.8	111.9
1987 [1]	125.1	107.4	105.4	113.6	105.4	102.8	113.1
Average annual percent change:							
1961-87	2.8	.8	.5	1.9	.9	.6	1.8
1982-87	6.5	1.2	1.1	1.9	.9	.6	1.8

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 256. Radio and television receiving sets (SIC 3651): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	58.1	54.1	76.7	59.9	56.5	75.2
1964	57.9	53.7	77.8	60.8	57.3	76.7
1965	63.5	58.1	92.1	67.5	62.8	90.4
1966	65.5	59.1	101.3	68.0	62.3	99.0
1967	66.5	61.6	90.0	67.7	63.5	87.9
1968	71.0	66.7	90.2	72.7	68.8	90.5
1969	68.4	65.2	81.3	70.5	67.8	81.9
1970	70.6	71.2	88.4	72.7	73.6	89.8
1971	74.2	73.2	77.4	76.3	75.5	78.9
1972	87.8	83.7	104.5	89.7	85.9	105.9
1973	87.9	83.2	108.5	88.9	84.3	109.1
1974	87.2	85.9	91.0	85.2	83.8	90.5
1975	90.1	91.6	85.5	89.7	91.2	85.3
1976	100.8	103.4	92.9	101.5	104.3	93.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	113.2	116.8	102.2	112.2	115.5	102.1
1979	118.5	122.1	108.0	120.1	124.1	108.2
1980	116.9	122.3	101.8	119.7	126.0	102.5
1981	133.6	140.1	115.8	134.6	141.2	116.2
1982	163.9	173.2	138.6	163.6	172.7	138.8
1983	196.1	206.7	166.9	207.1	222.9	166.9
1984	236.9	240.2	226.9	243.6	249.1	227.6
1985	249.8	255.9	230.8	256.4	265.1	231.1
1986	278.1	283.1	264.2	289.2	297.6	264.2
1987 [2]	300.5	312.6	266.1	306.2	319.9	266.5
Average annual percent change:						
1958-87	6.4	6.8	4.9	6.3	6.7	4.9
1982-87	12.5	12.0	14.2	12.7	12.1	14.2

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table ma differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Censu and the Bureau of Labor Statistics.

Table 257. Radio and television receiving sets (SIC 3651): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	65.2	112.3	120.5	85.0	108.9	115.5	86.7
1964	70.5	121.7	131.2	90.6	116.0	123.0	91.9
1965	90.6	142.6	155.9	98.4	134.3	144.2	100.2
1966	118.7	181.3	200.9	117.2	174.5	190.5	119.9
1967	106.0	159.5	172.1	117.8	156.5	166.9	120.6
1968	109.7	154.5	164.5	121.6	150.9	159.4	121.2
1969	99.8	145.9	153.0	122.7	141.5	147.1	121.8
1970	87.4	123.8	122.7	127.8	120.3	118.7	125.3
1971	91.9	123.9	125.6	118.7	120.5	121.7	116.5
1972	104.1	118.5	124.3	99.6	116.0	121.2	98.3
1973	109.8	124.9	132.0	101.2	123.5	130.2	100.6
1974	100.1	114.8	116.5	110.0	117.5	119.5	110.6
1975	82.8	91.9	90.4	96.8	92.3	90.8	97.1
1976	97.3	96.5	94.1	104.7	95.9	93.3	104.1
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	115.3	101.9	98.7	112.8	102.8	99.8	112.9
1979	110.1	92.9	90.2	101.9	91.7	88.7	101.8
1980	104.3	89.2	85.3	102.5	87.1	82.8	101.8
1981	109.3	81.8	78.0	94.4	81.2	77.4	94.1
1982	106.2	64.8	61.3	76.6	64.9	61.5	76.5
1983	125.7	64.1	60.8	75.3	60.7	56.4	75.3
1984	155.2	65.5	64.6	68.4	63.7	62.3	68.2
1985	155.1	62.1	60.6	67.2	60.5	58.5	67.1
1986	174.1	62.6	61.5	65.9	60.2	58.5	65.9
1987 [1]	178.8	59.5	57.2	67.2	58.4	55.9	67.1
Average annual percent change:							
1958-87	3.9	-2.4	-2.7	-.9	-2.3	-2.7	-1.0
1982-87	10.8	-1.6	-1.1	-3.0	-1.7	-1.2	-3.0

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 258. Semiconductors and related devices (SIC 3674): Indexes of output per employee hour and output per employee, 1972–87
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	46.3	42.6	50.1	46.6	43.3	50.0
1973	53.6	47.4	60.5	53.8	48.1	60.1
1974	64.1	59.2	69.2	63.2	58.1	68.5
1975	56.0	57.1	55.0	55.5	56.5	54.7
1976	82.5	81.9	82.8	82.3	81.9	82.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	120.5	120.0	120.8	121.4	122.1	120.8
1979	138.1	137.1	138.9	139.7	140.5	138.9
1980	149.4	159.2	141.7	149.2	158.8	141.7
1981	171.6	197.3	154.0	171.7	197.3	154.0
1982	197.9	237.5	172.4	196.9	234.0	172.4
1983	211.5	235.1	194.2	213.4	239.7	194.2
1984	229.2	244.1	217.6	233.0	253.2	217.6
1985	206.1	247.4	179.8	207.1	249.9	179.8
1986	210.5	260.7	179.9	212.2	265.9	179.9
1987 [2]	260.1	315.2	225.4	261.3	318.4	225.4
Average annual percent change:						
1972-87	12.5	14.9	10.7	12.6	15.0	10.7
1982-87	3.6	5.1	2.7	3.7	5.4	2.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 259. Semiconductors and related devices (SIC 3674): Indexes of output, employee hours, and employees, 1972–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	36.4	78.7	85.5	72.6	78.1	84.1	72.8
1973	51.0	95.2	107.6	84.3	94.8	106.0	84.9
1974	63.5	99.0	107.2	91.7	100.5	109.3	92.7
1975	45.8	81.8	80.2	83.2	82.5	81.0	83.8
1976	72.4	87.8	88.4	87.4	88.0	88.4	87.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	139.0	115.4	115.8	115.1	114.5	113.8	115.1
1979	190.4	137.9	138.9	137.1	136.3	135.5	137.1
1980	226.1	151.3	142.0	159.6	151.5	142.4	159.6
1981	260.5	151.8	132.0	169.2	151.7	132.0	169.2
1982	301.2	152.2	126.8	174.7	153.0	128.7	174.7
1983	339.9	160.7	144.6	175.0	159.3	141.8	175.0
1984	432.5	188.7	177.2	198.8	185.6	170.8	198.8
1985	392.3	190.3	158.6	218.2	189.4	157.0	218.2
1986	385.0	182.9	147.7	214.0	181.4	144.8	214.0
1987 [1]	438.8	168.7	139.2	194.7	167.9	137.8	194.7
Average annual percent change:							
1972-87	19.7	6.4	4.2	8.1	6.3	4.1	8.1
1982-87	6.4	2.6	1.2	3.6	2.5	.9	3.6

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 260. Motor vehicles and equipment (SIC 371): Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1963	63.7	63.7	63.4	61.2	62.0	61.5
1964	64.4	64.8	63.1	62.8	63.2	61.1
1965	66.6	67.7	72.2	66.6	67.9	70.6
1966	68.9	68.9	69.5	67.2	67.0	68.0
1967	69.3	70.5	65.6	64.8	65.4	62.8
1968	75.0	74.7	76.2	73.6	73.2	74.8
1969	73.6	73.9	72.4	70.2	70.1	70.6
1970	70.5	72.5	64.1	65.0	66.5	60.2
1971	81.9	82.4	80.3	76.9	77.1	75.9
1972	84.5	84.7	84.0	82.5	82.8	81.6
1973	85.7	85.9	85.1	84.7	85.0	83.9
1974	82.1	84.7	74.0	76.3	78.1	70.7
1975	87.7	89.8	80.9	80.7	82.3	75.6
1976	93.9	94.2	92.7	91.8	91.8	91.5
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	99.3	99.3	99.4	98.0	97.7	99.0
1979	97.8	99.3	92.9	92.3	92.8	90.8
1980	90.8	97.9	72.5	83.7	89.0	69.4
1981	93.1	98.1	79.0	87.3	91.1	76.3
1982	96.9	103.6	79.3	90.0	95.3	75.4
1983	109.6	112.2	101.9	107.3	110.3	97.9
1984	115.7	116.2	114.1	114.9	115.7	112.6
1985	121.2	121.3	120.6	120.3	120.4	120.0
1986	121.7	122.9	117.6	118.3	119.4	114.9
1987 [2]	125.2	124.7	126.6	120.4	120.1	121.4
Average annual percent change:						
1957-87	3.1	3.1	2.9	3.1	3.2	3.0
1982-87	4.8	3.6	8.4	5.3	4.2	8.7

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics and company records.

Table 251. Motor vehicles and equipment (SIC 371): Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1963	48.7	76.5	76.4	76.8	78.7	78.5	79.2
1964	50.2	78.0	77.5	79.6	79.9	79.4	82.1
1965	61.3	89.3	90.6	84.9	89.4	90.3	86.8
1966	61.5	89.2	89.3	88.5	91.5	91.8	90.4
1967	56.1	80.9	79.6	85.5	86.6	85.8	89.3
1968	68.2	90.9	91.3	89.5	92.7	93.2	91.2
1969	67.9	92.3	91.9	93.8	96.7	96.9	96.2
1970	55.1	78.2	76.0	86.0	84.8	82.9	91.5
1971	69.2	84.5	84.0	86.2	90.0	89.7	91.2
1972	76.6	90.6	90.4	91.2	92.8	92.5	93.9
1973	87.8	102.4	102.2	103.2	103.6	103.3	104.7
1974	73.6	89.6	86.9	99.5	96.4	94.2	104.1
1975	67.9	77.4	75.6	83.9	84.1	82.5	89.8
1976	85.8	91.4	91.1	92.6	93.5	93.5	93.8
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.0	104.7	104.7	104.6	106.1	106.4	105.0
1979	96.5	98.7	97.2	103.9	104.5	104.0	106.3
1980	69.7	76.8	71.2	96.1	83.3	78.3	100.4
1981	72.7	78.1	74.1	92.0	83.3	79.8	95.3
1982	66.4	68.5	64.1	83.7	73.8	69.7	88.1
1983	85.4	77.9	76.1	83.8	79.6	77.4	87.2
1984	104.6	90.4	90.0	91.7	91.0	90.4	92.9
1985	112.2	92.6	92.5	93.0	93.3	93.2	93.5
1986	109.0	89.6	88.7	92.7	92.1	91.3	94.9
1987 [1]	109.9	87.8	88.1	86.8	91.3	91.5	90.5
Average annual percent change:							
1957-87	3.9	.8	.7	.9	.7	.6	.9
1982-87	10.0	4.9	6.1	1.4	4.5	5.5	1.1

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics and company records.

Table 262. Instruments to measure electricity (SIC 3825): Indexes of output per employee hour and output per employee, 1972–86
(1977 = 100)

Year	Output per hour [1]			Output per employee [1]		
	All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:						
1972	84.7	81.8	90.0	87.1	83.8	93.1
1973	90.8	85.4	101.4	93.0	87.4	103.2
1974	92.0	87.1	101.2	92.1	87.1	101.0
1975	95.9	95.4	98.6	93.8	92.1	96.6
1976	95.5	94.7	97.0	95.1	93.7	97.4
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	101.0	102.7	98.0	101.0	103.0	97.9
1979	100.2	105.2	93.1	101.9	108.2	93.4
1980	108.4	119.7	93.9	107.8	118.7	94.5
1981	111.9	128.4	92.5	111.2	127.6	92.8
1982	119.2	134.0	101.0	117.3	130.8	101.3
1983	121.8	134.7	105.2	120.0	132.2	105.1
1984	133.7	147.2	116.2	132.7	145.7	116.6
1985	130.4	151.3	106.2	129.5	150.4	106.4
1986 [2]	122.2	141.3	99.9	124.2	146.7	100.2
Average annual percent change:						
1972-86	3.1	4.7	.7	3.0	4.7	.5
1982-86	1.2	2.2	−.1	1.9	3.6	−.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 263. Instruments to measure electricity (SIC 3825): Indexes of output, employee hours, and employees, 1972–86
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Production workers	Nonproduction workers	All employees	Production workers	Nonproduction workers
Index:							
1972	71.7	84.7	87.7	79.7	82.3	85.6	77.0
1973	84.2	92.7	98.6	83.0	90.5	96.3	81.6
1974	94.0	102.2	107.9	92.9	102.1	107.9	93.1
1975	85.9	89.6	90.0	88.9	91.6	93.3	88.9
1976	87.4	91.5	92.3	90.1	91.9	93.3	89.7
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	116.3	115.2	113.2	118.7	115.2	112.9	118.8
1979	129.6	129.3	123.2	139.2	127.2	119.8	138.7
1980	153.9	142.0	128.6	163.9	142.7	129.7	162.8
1981	158.6	141.7	123.5	171.5	142.6	124.3	170.9
1982	158.3	132.8	118.1	156.8	134.9	121.0	156.3
1983	161.9	132.9	120.2	153.9	134.9	122.5	154.0
1984	191.2	143.0	129.9	164.6	144.1	131.2	164.0
1985	179.9	138.0	118.9	169.4	138.9	119.6	169.0
1986 [1]	160.9	131.7	113.9	161.0	129.6	109.7	160.5
Average annual percent change:							
1972-86	7.1	3.9	2.3	6.4	4.0	2.3	6.5
1982-86	1.4	.2	−.8	1.5	−.5	−2.2	1.5

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 264. Railroad transportation, revenue traffic (SIC 401)[1]: Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [2]			Output per employee [2]		
	All employees	Nonsupervisory workers	Supervisory workers	All employees	Nonsupervisory workers	Supervisory workers
Index						
1963	54.9	53.9	62.7	57.3	55.8	70.7
1964	58.4	57.4	66.5	61.7	60.2	75.6
1965	65.1	64.3	71.4	68.1	66.5	81.0
1966	70.2	69.2	77.3	73.1	71.6	85.5
1967	72.2	71.2	79.8	73.6	72.4	83.5
1968	76.0	75.2	82.9	78.4	77.3	87.2
1969	79.0	78.1	85.7	81.3	80.3	89.4
1970	77.7	76.9	83.1	79.8	79.0	86.5
1971	80.8	80.5	83.5	79.6	78.9	86.3
1972	88.0	87.7	89.5	89.0	88.5	92.0
1973	96.4	95.9	99.0	96.4	95.8	101.0
1974	93.7	93.3	96.8	94.6	94.1	98.4
1975	89.5	89.9	86.1	88.5	88.7	87.2
1976	95.4	95.5	94.0	95.3	95.3	95.6
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	104.5	104.7	103.5	104.5	104.6	103.5
1979	104.7	104.8	104.1	105.4	105.5	104.4
1980	107.3	108.4	101.4	105.5	106.2	101.0
1981	111.5	113.3	101.4	106.8	109.9	102.0
1982	115.8	119.3	96.9	110.1	112.5	96.2
1983	141.9	146.1	118.2	136.3	139.5	117.5
1984	152.6	155.8	133.6	147.9	150.5	131.6
1985	162.1	166.3	138.3	156.5	159.7	137.5
1986	178.6	184.1	148.9	170.3	174.1	147.8
1987 [3]	208.3	214.0	178.1	204.4	208.7	179.8
Average annual percent change						
1947-87	4.7	5.0	2.9	4.3	4.5	2.4
1982-87	11.1	11.1	11.4	11.5	11.5	11.7

[1] Class I railroads and Class I switching and terminal companies.
[2] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[3] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Interstate Commerce Commission; the Association of American Railroads; the Federal Railroad Administration, U.S. Department Transportation; and the National Railroad Passenger Corporation. Employment and ho based on data from the Interstate Commerce Commission.

Table 265. Railroad transportation, revenue traffic (SIC 401)[1]: Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Nonsupervisory workers	Supervisory workers	All employees	Nonsupervisory workers	Supervisory workers
Index							
1963	79.3	144.4	147.1	126.5	138.5	142.2	112.1
1964	83.5	142.9	145.4	125.6	135.3	138.8	110.4
1965	88.1	135.3	137.1	123.4	129.4	132.3	108.8
1966	92.9	132.4	134.3	120.2	127.1	129.7	108.7
1967	90.4	125.2	126.9	113.3	122.9	124.8	108.2
1968	93.3	122.7	124.1	112.6	119.0	120.7	107.0
1969	94.8	120.0	121.4	110.6	116.6	118.1	106.0
1970	91.3	117.5	119.7	109.9	114.4	115.6	105.5
1971	80.3	110.5	111.0	107.0	112.2	113.2	103.5
1972	94.2	107.1	107.4	105.2	105.9	106.4	102.4
1973	103.2	107.1	107.6	104.2	107.0	107.7	102.2
1974	101.3	108.1	108.6	104.6	107.1	107.6	102.9
1975	87.7	98.0	97.5	101.9	99.1	98.9	100.6
1976	94.6	99.2	99.1	100.6	99.3	99.3	99.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.4	98.0	97.8	98.9	98.0	97.9	98.9
1979	103.9	99.2	99.1	99.8	98.6	98.5	99.5
1980	101.1	94.2	93.3	99.7	95.8	95.2	100.1
1981	99.1	88.9	87.5	97.7	91.1	90.2	97.2
1982	87.2	75.3	73.1	90.0	79.2	77.5	90.6
1983	92.8	65.4	63.5	78.5	68.1	66.5	79.0
1984	101.3	66.4	65.0	75.8	68.5	67.3	77.0
1985	100.8	62.2	60.6	72.9	64.4	63.1	73.3
1986	102.0	57.1	55.4	68.5	59.9	58.6	69.0
1987 [2]	110.4	53.0	51.6	62.0	54.0	52.9	61.4
Average annual percent change							
1947-87	.6	-4.0	-4.2	-2.3	-3.6	-3.8	-1.8
1982-87	4.3	-6.2	-6.1	-6.4	-6.5	-6.5	-6.6

[1] Class I railroads and Class I switching and terminal companies.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Interstate Commerce Commission; the Association of American Railroads; the Federal Railroad Administration, U.S. Department of Transportation; and the National Railroad Passenger Corporation. Employment and hours based on data from the Interstate Commerce Commission.

Table 266. Railroad transportation, car miles (SIC 40 1)[1]: Indexes of output per employee hour and output per employee, 1963–87

(1977 = 100)

Year	Output per hour [2]			Output per employee [2]		
	All employees	Nonsupervisory workers	Supervisory workers	All employees	Nonsupervisory workers	Supervisory workers
Index:						
1963	71.3	70.0	81.4	74.4	72.4	91.9
1964	73.8	72.5	83.9	77.9	75.9	95.5
1965	78.7	77.7	86.3	82.3	80.5	97.9
1966	82.8	81.6	91.2	86.2	84.5	100.8
1967	85.1	83.9	94.0	86.7	85.3	98.4
1968	86.9	85.9	94.7	89.6	88.3	99.6
1969	88.9	87.9	96.5	91.5	90.3	100.7
1970	89.1	88.2	95.3	91.5	90.6	99.2
1971	92.0	91.6	95.0	90.6	89.8	98.3
1972	98.3	98.0	100.1	99.4	99.0	102.8
1973	101.4	100.9	104.2	101.5	100.8	106.3
1974	98.9	98.4	102.2	99.8	99.3	103.9
1975	98.3	98.6	94.5	97.2	97.4	95.7
1976	100.1	100.2	98.7	100.0	100.0	100.3
1977	100.0	100.0	100.0	100.0	100.0	100.0
1978	102.8	103.0	101.8	102.8	102.9	101.8
1979	102.9	103.0	102.3	103.5	103.7	102.6
1980	107.9	108.9	101.9	106.1	106.7	101.5
1981	107.6	109.4	98.0	105.0	106.1	98.5
1982	110.1	113.4	92.1	104.7	107.0	91.5
1983	128.9	132.8	107.4	123.8	126.8	106.7
1984	137.7	140.6	120.6	133.4	135.8	118.7
1985	138.9	142.6	118.5	134.2	136.9	117.9
1986	148.2	152.7	123.5	141.2	144.4	122.6
1987 [3]	166.8	171.3	142.6	163.7	167.1	144.0
Average annual percent change:						
1947-87	3.4	3.7	1.6	3.0	3.2	1.1
1982-87	7.4	7.4	7.7	7.8	7.8	7.9

[1] Class I railroads and Class I switching and terminal companies.

[2] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[3] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission and the Association of American Railroads. Employment and hours based on data from the Interstate Commerce Commission.

Table 267. Railroad transportation, car miles (SIC 401)[1]: Indexes of output, employee hours, and employees, 1963–87

(1977 = 100)

Year	Output	Employee hours			Employees		
		All employees	Nonsupervisory workers	Supervisory workers	All employees	Nonsupervisory workers	Supervisory workers
Index:							
1963	103.0	144.4	147.1	126.5	138.5	142.2	112.1
1964	105.4	142.9	145.4	125.6	135.3	138.8	110.4
1965	106.5	135.3	137.1	123.4	129.4	132.3	108.8
1966	109.6	132.4	134.3	120.2	127.1	129.7	108.7
1967	106.5	125.2	126.9	113.3	122.9	124.8	108.2
1968	106.6	122.7	124.1	112.6	119.0	120.7	107.0
1969	106.7	120.0	121.4	110.6	116.6	118.1	106.0
1970	104.7	117.5	118.7	109.9	114.4	115.6	105.5
1971	101.7	110.5	111.0	107.0	112.2	113.2	103.5
1972	105.3	107.1	107.4	105.2	105.9	106.4	102.4
1973	108.6	107.1	107.6	104.2	107.0	107.7	102.2
1974	106.9	108.1	108.6	104.6	107.1	107.6	102.9
1975	96.3	98.0	97.5	101.9	99.1	98.9	100.6
1976	99.3	99.2	99.1	100.6	99.3	99.3	99.0
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	100.7	98.0	97.8	98.9	98.0	97.9	98.9
1979	102.1	99.2	99.1	99.8	98.6	98.5	99.5
1980	101.6	94.2	93.3	99.7	95.8	95.2	100.1
1981	95.7	88.9	87.5	97.7	91.1	90.2	97.2
1982	82.9	75.3	73.1	90.0	79.2	77.5	90.6
1983	84.3	65.4	63.5	78.5	68.1	66.5	79.0
1984	91.4	66.4	65.0	75.8	68.5	67.3	77.0
1985	86.4	62.2	60.6	72.9	64.4	63.1	73.3
1986	84.6	57.1	55.4	68.5	59.9	58.6	69.0
1987 [2]	88.4	53.0	51.6	62.9	54.0	52.9	61.4
Average annual percent change:							
1947-87	-.7	-4.0	-4.2	-2.3	-3.6	-3.8	-1.8
1982-87	.8	-6.2	-6.1	-6.4	-6.5	-6.5	-6.6

[1] Class I railroads and Class I switching and terminal companies.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Interstate Commerce Commission and the Association of American Railroads. Employment and hours based on data from the Interstate Commerce Commission.

Table 268. Bus carriers, Class 1 (Parts of SIC 4111, 4131, 414): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1963–86
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1963	108.7	114.6	115.9	106.6	101.1
1964	109.8	116.1	120.7	109.9	104.0
1965	116.3	122.0	127.2	109.4	104.3
1966	118.8	124.5	132.8	111.8	106.7
1967	114.8	121.2	133.9	116.6	110.5
1968	113.2	119.6	130.5	115.3	109.1
1969	109.9	115.6	126.1	114.7	109.1
1970	107.3	112.8	123.8	115.4	109.8
1971	104.6	108.1	116.3	111.0	107.6
1972	106.8	105.7	111.5	104.4	105.5
1973	106.2	107.7	106.8	100.6	99.2
1974	110.2	112.0	115.8	105.1	103.4
1975	97.0	97.9	104.4	107.6	106.6
1976	93.8	95.1	100.7	107.3	105.9
1977	100.0	100.0	100.0	100.0	100.0
1978	95.7	94.9	94.9	98.1	100.0
1979	98.3	98.6	101.3	103.0	102.7
1980	100.9	94.2	99.9	99.0	106.0
1981	90.7	86.2	92.0	101.4	106.7
1982	98.8	94.1	94.0	95.1	99.9
1983	95.4	93.0	82.5	86.5	88.7
1984	90.9	89.9	78.5	86.4	87.3
1985	87.4	88.3	73.2	83.8	82.9
1986 [1]	86.8	90.0	65.0	74.9	72.2
Average annual percent change:					
1954-86	-.2	-.5	-1.0	-.8	-.5
1982-86	-3.4	-1.4	-8.2	-5.0	-6.9

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Interstate Commerce Commission, the American Bus Association, and the Bureau of Labor Statistics.

Table 269. Intercity trucking (SIC 4213 part)[1]: Indexes of output per employee, output, and employees, 1963–86
(1977 = 100)

Year	Output per employee	Output	Employees
Index:			
1963	72.5	48.1	66.3
1964	74.5	51.2	68.7
1965	77.2	57.5	74.5
1966	81.3	63.8	78.5
1967	76.2	61.7	78.9
1968	83.3	68.1	81.8
1969	85.2	72.6	85.2
1970	83.5	69.8	83.6
1971	88.8	75.9	85.5
1972	94.6	85.6	90.5
1973	96.6	92.8	96.1
1974	93.3	90.1	96.6
1975	89.2	81.6	91.5
1976	100.3	93.1	92.8
1977	100.0	100.0	100.0
1978	115.3	98.1	85.1
1979	116.7	104.3	89.4
1980	107.7	88.3	82.0
1981	116.3	87.2	75.0
1982	108.0	82.1	76.0
1983	130.7	88.2	67.5
1984	135.1	99.6	73.7
1985	130.2	89.3	68.6
1986 [2]	134.5	92.1	68.5
Average annual percent change:			
1954-86	2.7	4.0	1.3
1982-86	4.4	2.5	-1.9

[1] Class I and II common and contract carriers.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Interstate Commerce Commission; Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc.; and the American Trucking Association.

Table 270. Intercity trucking, general freight (SIC 4213 part)[1]: Indexes of output per employee, output, and employees, 1963–86
(1977 = 100)

Year	Output per employee	Output	Employees
Index:			
1963	69.6	54.2	77.9
1964	72.7	58.5	80.5
1965	78.7	64.2	81.6
1966	77.4	70.9	91.6
1967	75.1	68.6	91.4
1968	79.3	75.2	94.8
1969	80.6	79.1	98.1
1970	76.8	72.9	94.9
1971	81.1	77.4	95.4
1972	86.1	85.2	99.0
1973	91.7	94.6	103.2
1974	93.4	92.9	99.5
1975	88.4	80.6	91.2
1976	96.1	91.8	95.5
1977	100.0	100.0	100.0
1978	116.6	99.1	85.0
1979	116.4	102.3	87.9
1980	107.5	84.6	78.7
1981	117.2	85.1	72.6
1982	107.8	77.8	72.2
1983	136.0	84.2	61.9
1984	137.6	93.3	67.8
1985	131.7	84.3	64.0
1986 [2]	140.9	92.7	65.8
Average annual percent change:			
1954-86	2.8	3.0	.2
1982-86	5.2	3.6	-1.5

[1] Class I and II common carriers of general freight.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Interstate Commerce Commission; Trinc Transportation Consultants, a division of Dunn and Bradstreet, Inc.; and the American Trucking Association.

Table 271. Air transportation (SIC 4511, 4521 part)[1]: Indexes of output per employee, output, and employees, 1963–87
(1977 = 100)

Year	Output per employee	Output	Employees
Index:			
1963	44.4	25.2	56.7
1964	48.8	29.4	60.2
1965	54.4	35.5	65.3
1966	61.1	43.6	71.4
1967	65.1	55.2	84.8
1968	68.0	63.7	93.7
1969	69.9	69.9	100.0
1970	71.4	71.0	99.4
1971	76.0	72.7	95.6
1972	83.8	79.9	95.3
1973	85.5	84.7	99.1
1974	86.6	84.9	98.0
1975	87.6	84.4	96.4
1976	95.5	93.1	97.5
1977	100.0	100.0	100.0
1978	109.3	113.9	104.2
1979	113.1	125.4	110.9
1980	106.2	121.0	113.9
1981	104.9	117.7	112.2
1982	114.9	122.0	106.2
1983	126.8	132.4	104.4
1984	131.7	143.8	109.2
1985	136.5	156.7	114.8
1986	138.2	170.7	123.5
1987 [2]	146.4	188.4	128.7
Average annual percent change:			
1947-87	6.1	10.4	4.1
1982-87	4.4	9.0	4.4

[1] Due to airline deregulation, the measures from 1980 forward reflect the inclusion of some noncertificated carriers.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Based on data from the Research and Special Programs Administration, U.S. Department of Transportation.

Table 272. Petroleum pipelines (SIC 4612, 4613): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]		Output per employee [1]	
	All employees	Nonsupervisory workers	All employees	Nonsupervisory workers
Index:				
1963	40.0	34.2	39.0	33.3
1964	43.4	37.7	42.7	37.2
1965	51.6	45.3	50.8	44.7
1966	58.1	51.1	56.9	50.1
1967	64.9	57.2	64.6	56.9
1968	68.7	61.1	68.1	60.5
1969	74.2	67.3	73.2	66.6
1970	79.5	73.6	78.9	72.9
1971	82.4	77.7	81.7	77.0
1972	92.8	86.8	91.4	85.7
1973	97.8	92.1	96.8	91.3
1974	95.1	89.7	93.8	88.4
1975	95.7	92.6	93.2	90.2
1976	95.2	93.9	94.7	93.5
1977	100.0	100.0	100.0	100.0
1978	101.7	103.2	101.2	102.7
1979	101.7	105.1	102.5	105.9
1980	93.0	95.8	93.5	96.2
1981	86.0	90.1	87.9	92.0
1982	89.2	94.9	90.9	96.8
1983	94.3	98.8	94.1	98.6
1984	104.5	108.6	101.3	105.2
1985	104.9	107.6	103.4	106.1
1986	107.0	107.6	107.7	108.4
1987 [2]	106.6	107.2	106.8	107.5
Average annual percent change:				
1947-87	[3]	[3]	6.3	[3]
1982-87	3.7	2.5	3.6	2.4

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.
[2] Preliminary.
[3] Data not available.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the American Petroleum Institute and the Interstate Commerce Commission. Employment and hours based on data from the Bureau of Labor Statistics and the Interstate Commerce Commission.

Table 273. Petroleum pipelines (SIC 4612, 4613): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours		Employees	
		All employees	Nonsupervisory workers	All employees	Nonsupervisory workers
Index:					
1963	43.6	109.0	127.4	111.9	130.8
1964	46.2	106.5	122.5	108.2	124.2
1965	53.6	103.9	118.2	105.5	119.8
1966	58.2	100.2	113.9	102.2	116.2
1967	65.3	100.6	114.2	101.1	114.7
1968	68.1	99.1	111.4	100.0	112.5
1969	70.9	95.6	105.4	96.8	106.5
1970	75.0	94.3	101.9	95.1	102.9
1971	76.4	92.7	98.3	93.5	99.2
1972	82.5	88.9	95.0	90.3	96.3
1973	87.9	89.9	95.4	90.8	96.3
1974	87.7	92.2	97.8	93.5	99.2
1975	88.2	92.2	95.2	94.6	97.8
1976	90.7	95.3	96.6	95.8	97.0
1977	100.0	100.0	100.0	100.0	100.0
1978	107.2	105.4	103.9	105.9	104.4
1979	111.3	109.4	105.9	108.6	105.1
1980	107.6	115.7	112.3	115.1	111.8
1981	103.5	120.4	114.9	117.8	112.5
1982	104.6	117.3	110.2	115.1	108.1
1983	102.2	108.4	103.4	108.6	103.7
1984	104.5	100.0	96.2	103.2	99.3
1985	104.5	99.6	97.1	101.1	98.5
1986	106.0	99.1	98.5	98.4	97.8
1987 [1]	105.1	98.6	98.0	98.4	97.8
Average annual percent change:					
1947-87	5.0	[2]	[2]	-1.2	[2]
1982-87	.4	-3.2	-2.0	-3.1	-1.9

[1] Preliminary.
[2] Data not available.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Petroleum Institute and the Interstate Commerce Commission. Employment and hours based on data from the Bureau of Labor Statistics and the Interstate Commerce Commission.

Table 274. Telephone communications (SIC 4811): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1963	46.7	46.8	33.5	71.8	71.6
1964	48.5	48.9	36.1	74.4	73.8
1965	50.6	51.3	39.4	77.8	76.8
1966	52.9	53.8	43.5	82.2	80.8
1967	56.9	56.1	47.2	83.0	84.2
1968	60.4	60.1	51.0	84.5	84.8
1969	61.7	62.3	56.6	91.8	90.9
1970	62.1	61.4	60.4	97.2	98.4
1971	66.8	63.8	63.4	94.9	99.4
1972	70.0	69.3	69.2	98.9	99.8
1973	74.6	74.3	76.2	102.2	102.5
1974	78.4	78.3	81.8	104.3	104.5
1975	85.9	84.0	84.8	98.7	101.0
1976	93.3	91.2	90.8	97.3	99.6
1977	100.0	100.0	100.0	100.0	100.0
1978	105.8	106.6	110.8	104.7	103.9
1979	110.8	111.6	122.2	110.3	109.5
1980	118.1	118.9	133.2	112.8	112.0
1981	124.4	125.1	140.7	113.1	112.5
1982	129.1	128.8	144.2	111.7	112.0
1983	145.1	145.1	146.6	101.0	101.0
1984	143.0	144.8	149.1	104.3	103.0
1985	149.8	154.3	153.7	102.6	99.6
1986	161.3	167.3	159.8	99.1	95.5
1987 [1]	166.1	172.4	168.8	101.6	97.9
Average annual percent change:					
1951-87	6.1	6.2	7.7	1.5	1.4
1982-87	4.7	5.7	3.1	-1.6	-2.5

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Federal Communications Commission, the American Telephone and Telegraph Company, the GTE Corporation, and the seven regional operating companies. Employment and hours based on data from the Bureau of Labor Statistics.

Table 275. Gas and electric utilities (SIC 491, 492, 493): Indexes of output per employee hour and output per employee, 1963–87
(1977 = 100)

Year	Output per hour [1]		Output per employee [1]	
	All employees	Nonsupervisory workers	All employees	Nonsupervisory workers
Index:				
1963	57.4	54.1	57.3	53.9
1964	61.6	58.3	61.6	58.1
1965	64.3	60.8	64.5	61.0
1966	69.0	65.5	69.5	65.9
1967	72.0	68.7	72.5	69.1
1968	77.2	73.6	77.6	74.0
1969	82.0	78.6	82.7	79.2
1970	84.6	81.1	85.2	81.7
1971	89.2	85.9	89.4	86.1
1972	92.3	89.2	92.9	89.8
1973	93.6	91.0	94.8	92.2
1974	92.0	91.1	92.5	90.5
1975	95.7	94.3	95.3	93.9
1976	98.2	97.4	98.1	97.2
1977	100.0	100.0	100.0	100.0
1978	98.2	99.3	99.4	100.5
1979	97.6	98.7	98.8	99.9
1980	96.2	97.3	97.5	98.5
1981	94.4	95.5	94.9	95.9
1982	89.3	91.2	89.9	91.8
1983	88.1	91.0	88.6	91.4
1984	91.4	95.1	92.1	95.7
1985	90.5	94.2	91.3	95.1
1986	89.1	93.0	90.0	93.9
1987 [2]	92.7	97.1	93.1	97.6
Average annual percent change:				
1947-87	4.3	4.8	4.3	4.8
1982-87	.6	1.1	.6	1.1

[1] The output measures underlying the output per employee hour and output per employee indexes relate to the total production of the industry. They do not relate to the specific output of any single group of employees.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association; the Rural Electrification Administration, U.S. Department of Agriculture; the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 276. Gas and electric utilities (SIC 491, 492, 493): Indexes of output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output	Employee hours		Employees	
		All employees	Nonsupervisory workers	All employees	Nonsupervisory workers
Index:					
1963	48.1	83.8	88.9	83.9	89.2
1964	51.9	84.2	89.0	84.3	89.3
1965	55.0	85.6	90.5	85.3	90.2
1966	59.7	86.5	91.1	85.9	90.6
1967	63.4	88.0	92.3	87.5	91.7
1968	69.0	89.4	93.8	88.9	93.3
1969	75.1	91.6	95.5	90.8	94.8
1970	79.6	94.1	98.2	93.4	97.4
1971	83.9	94.1	97.7	93.8	97.4
1972	89.3	96.7	100.1	96.1	99.4
1973	93.2	99.6	102.4	98.3	101.1
1974	92.6	100.6	101.7	100.1	102.3
1975	93.7	97.9	99.4	98.3	99.8
1976	96.4	98.2	99.0	98.3	99.2
1977	100.0	100.0	100.0	100.0	100.0
1978	103.4	105.3	104.1	104.0	102.9
1979	106.4	109.0	107.8	107.7	106.5
1980	107.8	112.0	110.8	110.6	109.4
1981	108.2	114.6	113.3	114.0	112.8
1982	105.4	116.0	115.6	117.2	114.8
1983	104.7	118.8	115.1	118.2	114.5
1984	110.0	120.4	115.7	119.5	114.9
1985	110.4	122.0	117.2	120.9	116.1
1986	108.4	121.6	116.6	120.5	115.5
1987 [1]	111.4	120.2	114.7	119.6	114.1
Average annual percent change:					
1947-87	5.6	1.3	.8	1.2	.8
1982-87	1.1	.5	[2]	.5	[2]

[1] Preliminary.

[2] Less than .05 percent.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association; the Rural Electrification Administration, U.S. Department of Agriculture; the Energy Information Administration, U.S. Department of Energy; and the Bureau of Labor Statistics. Employment and hours based on data from the Bureau of Labor Statistics.

Table 277. Electric utilities (SIC 491, 493 part): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1963–87
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1963	51.0	50.8	39.5	77.4	77.7
1964	54.9	54.7	42.8	77.9	78.3
1965	57.9	58.1	46.1	79.6	79.4
1966	62.5	62.8	50.4	80.7	80.2
1967	65.1	65.4	53.8	82.6	82.3
1968	70.1	70.4	59.2	84.5	84.1
1969	74.3	75.0	64.9	87.4	86.5
1970	77.1	77.6	69.7	90.4	89.8
1971	81.4	81.7	74.2	91.2	90.8
1972	85.6	86.3	80.5	94.0	93.3
1973	88.4	90.1	86.9	98.3	96.5
1974	87.1	87.9	86.8	99.7	98.8
1975	92.9	92.1	89.7	96.6	97.4
1976	95.6	95.4	93.5	97.8	98.0
1977	100.0	100.0	100.0	100.0	100.0
1978	96.6	96.6	103.6	107.0	105.1
1979	95.4	97.0	106.2	111.3	109.5
1980	94.0	95.6	108.4	115.3	113.4
1981	93.0	93.5	109.3	117.5	116.9
1982	89.5	90.2	108.2	120.9	119.9
1983	90.9	91.5	111.3	122.4	121.7
1984	94.4	95.0	117.9	124.9	124.1
1985	93.5	94.7	120.1	128.4	126.8
1986	96.2	97.3	123.1	127.9	126.5
1987 [1]	101.0	101.3	127.2	126.0	125.6
Average annual percent change:					
1958-87	3.4	3.5	5.5	2.0	2.0
1982-87	2.2	2.2	3.3	1.1	1.1

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rural Electrification Administration, U.S. Department of Agriculture, and the Energy Information Administration, U.S. Department of Energy. Employment and hours based on data from the Bureau of Labor Statistics.

Table 278. Gas utilities (SIC 492, 493 part): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1963–87
(1977=100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1963	72.6	72.9	72.2	99.5	99.1
1964	77.7	78.0	77.3	99.5	99.1
1965	79.6	80.3	80.1	100.6	99.7
1966	84.5	85.3	85.2	100.8	99.9
1967	88.6	89.2	89.2	100.7	100.0
1968	94.1	94.6	94.9	100.9	100.3
1969	100.3	100.6	101.8	101.5	101.2
1970	102.1	102.9	105.0	102.8	102.0
1971	106.9	106.9	108.2	101.2	101.2
1972	107.6	106.2	111.1	103.3	102.7
1973	104.5	105.0	107.7	103.1	102.6
1974	102.0	102.1	105.3	103.2	103.1
1975	101.4	101.4	102.0	100.6	100.6
1976	103.5	103.1	102.4	98.9	99.3
1977	100.0	100.0	100.0	100.0	100.0
1978	101.4	101.5	102.9	101.5	101.4
1979	103.4	103.4	106.8	103.3	103.3
1980	102.1	102.1	106.2	104.0	104.0
1981	98.1	98.4	105.5	107.5	107.2
1982	89.0	89.2	96.6	110.8	110.5
1983	91.1	91.4	99.3	110.1	109.7
1984	93.6	94.3	101.5	109.5	108.5
1985	92.1	92.6	98.1	107.3	106.7
1986	73.0	73.8	78.3	107.2	106.1
1987 [1]	74.8	75.5	79.4	106.1	105.1
Average annual percent change:					
1958-87	1.0	1.1	1.4	.3	.3
1982-87	-3.4	-3.2	-4.2	-.9	-1.0

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the American Gas Association. Employment and hours based on data from the Bureau of Labor Statistics.

Table 279. Hardware stores (SIC 5251): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	100.9	102.8	90.8	90.0	88.3
1973	98.7	99.9	90.0	91.2	90.1
1974	95.1	95.7	88.9	93.5	92.9
1975	97.8	98.2	92.4	94.5	94.1
1976	95.9	99.5	95.0	99.1	95.5
1977	100.0	100.0	100.0	100.0	100.0
1978	100.2	101.2	104.0	103.8	102.8
1979	114.8	111.8	116.1	101.1	103.8
1980	111.6	107.5	112.4	100.7	104.6
1981	107.5	103.2	106.2	98.8	102.9
1982	109.2	104.9	103.6	94.9	98.8
1983	111.4	107.0	109.8	98.6	102.6
1984	121.1	116.3	126.9	104.8	109.1
1985	124.6	118.6	130.6	104.8	110.1
1986	137.4	130.2	139.3	101.4	107.0
1987 [2]	149.5	144.2	155.5	104.0	107.8
Average annual percent change:					
1972-87	2.5	2.0	3.3	.8	1.3
1982-87	6.6	6.5	8.2	1.6	1.6

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 280. Department stores (SIC 5311): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1967–87
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	77.2	84.6	64.6	83.7	76.4
1968	78.6	85.1	69.1	87.9	81.2
1969	77.6	83.1	71.1	91.6	85.6
1970	77.5	82.3	71.9	92.8	87.4
1971	82.4	87.3	78.5	95.3	89.9
1972	83.5	88.8	84.8	101.6	95.5
1973	86.6	91.6	90.7	104.7	99.0
1974	85.0	88.9	87.5	103.0	98.4
1975	89.7	92.6	87.9	98.0	94.9
1976	94.5	96.2	93.3	98.7	97.0
1977	100.0	100.0	100.0	100.0	100.0
1978	102.6	100.7	106.5	103.6	105.8
1979	104.4	102.4	107.7	103.2	105.2
1980	103.8	100.9	105.7	101.8	104.8
1981	109.9	106.9	112.0	101.9	104.8
1982	112.4	109.4	112.7	100.3	103.0
1983	119.5	116.6	119.5	100.0	102.5
1984	126.6	121.7	130.7	103.2	107.4
1985	129.2	122.5	133.6	103.4	109.1
1986	135.3	126.6	140.4	103.8	110.9
1987 [1]	137.2	127.4	145.0	105.7	113.8
Average annual percent change:					
1967-87	3.1	2.3	3.9	.6	1.6
1982-87	4.1	2.9	5.2	1.1	2.2

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, employment, and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 281. Variety stores (SIC 5331): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1967–86
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	113.2	117.9	121.8	107.6	103.3
1968	119.2	122.3	127.4	106.9	104.2
1969	121.2	124.1	129.3	106.7	104.2
1970	126.1	131.5	136.4	108.2	103.7
1971	118.1	124.9	133.1	112.7	106.6
1972	126.7	134.0	141.1	111.4	105.3
1973	121.2	126.8	139.4	115.0	109.9
1974	119.7	122.5	132.5	110.7	108.2
1975	122.9	128.4	125.7	102.3	97.9
1976	106.9	109.6	107.2	100.3	97.8
1977	100.0	100.0	100.0	100.0	100.0
1978	100.5	98.6	98.6	98.1	100.0
1979	102.1	103.7	101.2	99.1	97.6
1980	107.3	107.9	94.5	88.1	87.6
1981	118.4	116.3	94.0	79.4	80.8
1982	112.5	113.0	90.6	80.5	80.2
1983	119.7	121.9	91.2	76.2	74.8
1984	123.7	124.8	94.6	76.5	75.8
1985	114.3	114.8	91.7	80.2	79.9
1986[2]	101.2	102.0	86.5	85.5	84.8
Average annual percent change:					
1967-86	-.5	-.7	-2.6	-2.1	-1.8
1982-86	-2.5	-2.6	-.9	1.7	1.8

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census and the Bureau of Labor Statistics.

Table 282. Retail food stores (SIC 54): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1963–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1963	85.3	97.9	75.5	88.5	77.1
1964	87.2	100.1	79.4	90.8	79.1
1965	89.5	101.0	82.1	91.7	81.3
1966	92.0	101.3	83.5	90.8	82.4
1967	95.5	103.4	85.2	89.2	82.4
1968	100.5	106.6	89.2	88.8	83.7
1969	101.2	105.7	91.0	89.9	86.1
1970	107.0	110.8	96.5	90.2	87.1
1971	107.6	111.0	97.9	91.0	88.2
1972	106.7	110.7	99.4	93.2	89.8
1973	102.3	106.0	96.8	94.6	91.3
1974	98.0	99.8	94.7	96.6	94.9
1975	98.8	98.9	95.5	96.7	96.6
1976	100.8	101.9	99.9	99.1	98.0
1977	100.0	100.0	100.0	100.0	100.0
1978	96.0	95.5	100.7	104.9	105.5
1979	98.3	95.9	103.5	105.3	107.9
1980	100.3	95.4	105.8	105.5	110.9
1981	97.1	92.0	105.0	108.1	114.1
1982	95.5	90.1	104.9	109.9	116.4
1983	95.5	90.0	107.0	112.1	118.9
1984	96.1	89.8	109.7	114.1	122.1
1985	96.6	88.9	112.4	116.3	126.5
1986[2]	94.6	86.8	114.7	121.2	132.2
1987[2]	92.8	85.6	115.0	123.9	134.4
Average annual percent change:					
1958-87	.7	-.3	1.8	1.9	2.0
1982-87	-.5	-1.1	2.0	2.5	3.1

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of Labor Statistics; and the Economics, Statistics, and Cooperatives Service, U.S. Department of Agriculture. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 283. Grocery stores (SIC 5411): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	104.7	108.2	97.9	93.5	90.5
1973	100.8	104.0	95.4	94.6	91.7
1974	96.9	98.0	93.5	96.5	95.4
1975	98.6	98.2	95.4	96.8	97.1
1976	100.8	101.8	100.0	99.2	98.2
1977	100.0	100.0	100.0	100.0	100.0
1978	96.9	96.2	100.9	104.1	104.9
1979	99.0	98.3	103.6	104.6	107.6
1980	100.1	94.8	105.4	105.3	111.2
1981	97.9	92.0	104.9	107.2	114.0
1982	97.9	91.3	105.5	107.8	115.5
1983	98.6	91.4	107.8	109.3	117.9
1984	100.1	92.3	111.2	111.1	120.5
1985	98.4	90.0	114.5	116.4	127.2
1986	96.3	87.5	116.5	121.0	133.1
1987 [2]	94.3	86.1	116.8	123.9	135.7
Average annual percent change:					
1972-87	-.3	-1.2	1.4	1.8	2.7
1982-87	-.8	-1.3	2.2	3.0	3.6

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source date, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 284. Retail bakeries (SIC 546): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	110.9	115.1	106.6	96.1	92.6
1973	110.3	115.4	107.1	97.1	92.8
1974	102.9	112.4	103.9	101.0	92.4
1975	93.1	95.1	87.3	93.8	91.8
1976	101.0	100.1	94.5	93.6	94.4
1977	100.0	100.0	100.0	100.0	100.0
1978	99.1	98.2	102.5	103.4	104.4
1979	98.6	99.5	109.1	110.7	109.7
1980	102.5	102.9	111.7	109.0	108.5
1981	97.9	98.7	105.5	107.8	109.1
1982	90.6	89.1	102.9	113.6	115.5
1983	93.0	89.5	104.6	112.5	116.9
1984	87.2	85.9	106.3	121.9	123.8
1985	81.6	80.0	102.2	125.2	127.7
1986	85.5	82.9	109.4	127.9	132.0
1987 [2]	86.3	82.2	116.1	134.6	141.2
Average annual percent change:					
1972-87	-1.6	-2.2	.6	2.3	2.9
1982-87	-1.6	-2.0	2.0	3.7	4.1

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 285. Franchised new car dealers (SIC 5511): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1963–87
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1963	74.4	83.5	65.2	87.6	78.1
1964	73.8	83.3	67.4	91.3	80.9
1965	79.2	88.8	75.2	95.0	84.7
1966	79.9	88.0	76.1	95.2	86.5
1967	81.0	87.4	75.0	92.6	85.8
1968	85.5	91.0	80.8	94.5	88.8
1969	85.8	90.2	83.1	96.9	92.1
1970	86.1	89.7	81.3	94.4	90.6
1971	91.7	95.2	87.3	95.2	91.7
1972	94.9	98.0	94.8	99.9	96.7
1973	96.3	98.8	98.9	102.7	100.1
1974	93.2	94.9	89.1	95.6	93.9
1975	95.0	96.5	87.9	92.5	91.1
1976	98.6	99.8	95.8	97.2	96.0
1977	100.0	100.0	100.0	100.0	100.0
1978	100.2	98.9	103.6	103.4	104.7
1979	97.7	96.6	100.7	103.1	104.2
1960	99.6	97.5	90.6	91.0	92.9
1981	98.1	96.1	84.8	86.4	88.2
1982	100.4	97.6	84.5	84.2	86.6
1983	109.4	106.0	95.5	87.3	90.1
1984	110.4	107.1	106.1	96.1	99.1
1985	109.7	106.0	113.3	103.3	106.9
1986	110.7	105.9	118.4	107.0	111.8
1987 [1]	105.3	100.4	115.4	109.6	114.9
Average annual percent change:					
1958-87	1.8	1.1	2.3	.5	1.2
1982-87	8	.4	6.7	5.9	6.3

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census, the Bureau of Labor Statistics, the National Automobile Dealers Association, and Ward's Communications, Inc. (Ward's Automotive Yearbooks). Employment and hours based on data from the Bureau of Labor Statistics.

Table 286. Gasoline service stations (SIC 5541): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1963–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1963	56.3	67.8	94.4	114.3	95.0
1964	57.2	69.2	96.8	116.8	96.6
1965	59.2	70.8	70.4	119.0	99.5
1966	62.0	73.3	74.2	119.7	101.6
1967	63.2	73.3	75.4	119.9	102.8
1968	67.5	77.1	81.6	120.8	105.9
1969	69.2	78.7	83.7	122.8	109.1
1970	74.8	82.9	90.2	120.9	108.8
1971	77.1	85.9	93.8	121.8	109.3
1972	80.3	89.0	99.7	124.1	112.0
1973	86.2	91.9	101.5	117.8	110.5
1974	86.9	91.2	90.6	104.2	99.3
1975	85.3	90.1	93.2	109.2	103.4
1976	94.1	95.7	97.4	103.5	101.8
1977	100.0	100.0	100.0	100.0	100.0
1978	103.1	102.2	101.1	98.1	98.9
1979	107.4	104.0	94.5	88.0	90.9
1980	105.1	101.8	89.3	85.0	87.7
1981	106.7	103.2	88.1	82.6	85.4
1982	111.9	106.6	86.9	77.7	81.5
1983	122.5	115.7	93.0	75.9	80.4
1984	129.1	120.6	97.2	75.3	80.6
1985	134.3	123.8	100.3	74.7	81.0
1986 [2]	143.9	132.9	109.1	75.9	82.1
1987 [2]	145.7	133.0	111.3	76.4	83.7
Average annual percent change:					
1958-87	3.9	2.7	2.2	-1.7	-.6
1982-87	5.4	4.5	5.1	-.3	.6

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 287. Apparel and accessory stores (SIC 56): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1987–87

(1977=100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	81.2	87.7	70.2	86.5	80.0
1968	83.2	88.0	73.0	87.7	83.0
1969	82.5	86.9	74.3	90.1	85.5
1970	81.3	85.9	74.0	91.0	86.1
1971	83.7	88.1	78.3	93.5	88.9
1972	90.7	93.2	83.2	91.7	89.3
1973	99.5	101.9	92.6	93.1	90.9
1974	98.9	100.6	90.9	91.9	90.4
1975	105.0	106.1	95.0	90.5	89.5
1976	103.1	104.1	99.3	96.3	95.4
1977	100.0	100.0	100.0	100.0	100.0
1978	110.9	109.8	114.1	102.9	103.9
1979	112.9	110.5	119.1	105.5	107.8
1980	117.9	113.9	123.1	104.4	108.1
1981	123.9	119.3	130.8	105.6	109.6
1982	126.4	121.3	131.3	103.9	108.2
1983	132.9	126.5	139.9	105.3	110.6
1984	141.0	134.1	150.2	106.5	112.0
1985	146.5	137.4	159.2	108.7	115.9
1986 [2]	153.7	142.6	171.7	111.7	120.4
1987 [2]	146.4	135.9	171.6	117.2	126.3
Average annual percent change:					
1967-87	3.4	2.6	4.8	1.4	2.1
1982-87	3.5	2.8	5.9	2.3	3.1

[1] All persons include paid employees, unpaid family workers, and the self-employed.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 288. Men's and boys' clothing stores (SIC 5611): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1967–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	83.4	88.4	75.9	91.0	85.9
1968	84.4	86.5	79.8	94.6	90.2
1969	85.6	89.3	84.0	98.1	94.1
1970	82.7	85.8	83.5	101.0	97.3
1971	86.3	88.6	87.4	101.3	96.7
1972	96.9	99.5	99.7	102.9	100.2
1973	103.4	105.6	104.3	100.9	98.8
1974	97.6	98.6	96.7	99.1	98.1
1975	102.3	103.8	99.2	97.0	95.6
1976	97.3	98.0	98.5	101.2	100.5
1977	100.0	100.0	100.0	100.0	100.0
1978	105.8	104.9	105.6	99.8	100.7
1979	108.6	107.1	107.3	98.8	100.2
1980	107.1	105.6	102.0	95.2	96.6
1981	116.4	112.8	100.7	86.5	89.3
1982	116.6	112.1	96.4	82.7	86.0
1983	120.6	115.2	97.1	80.5	84.3
1984	127.4	121.2	99.4	78.0	82.0
1985	135.0	126.5	100.6	74.5	79.5
1986 [2]	139.5	130.9	102.1	73.2	78.0
1987 [2]	135.0	126.5	99.2	73.5	78.4
Average annual percent change:					
1967-87	2.6	2.0	1.1	-1.5	-.9
1982-87	3.6	3.0	-.9	-2.6	-2.1

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 289. Women's ready-to-wear stores (SIC 5621): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1967–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	71.3	78.9	62.2	87.2	78.8
1968	73.6	78.8	64.0	87.0	81.2
1969	73.8	79.0	66.2	89.7	83.8
1970	76.5	81.3	68.5	89.5	84.3
1971	82.8	87.3	76.3	92.1	87.4
1972	86.4	89.5	79.4	91.9	88.7
1973	94.2	96.8	87.8	93.2	90.7
1974	96.4	97.9	88.0	91.3	89.9
1975	106.5	107.9	96.7	90.8	89.6
1976	104.7	106.3	102.3	97.7	96.2
1977	100.0	100.0	100.0	100.0	100.0
1978	111.8	109.8	114.3	102.2	104.1
1979	116.0	112.1	119.5	103.0	106.6
1980	117.9	112.4	119.8	101.6	106.6
1981	127.8	121.4	128.3	100.4	105.7
1982	142.0	133.9	135.0	95.1	100.8
1983	151.3	143.7	147.7	97.6	102.8
1984	158.3	150.2	159.1	100.5	105.9
1985	162.8	152.2	170.3	104.6	111.9
1986 [2]	176.4	161.5	188.0	106.6	116.4
1987 [2]	171.9	157.6	185.6	108.0	117.8
Average annual percent change:					
1967-87	4.6	3.9	5.8	1.0	1.9
1982-87	4.2	3.4	7.0	2.7	3.5

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 290. Family clothing stores (SIC 5651): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1967–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	75.0	81.3	58.6	78.1	72.1
1968	77.9	83.6	60.6	77.8	72.5
1969	75.2	81.9	61.7	82.0	75.3
1970	75.2	82.6	61.6	81.9	74.6
1971	85.1	90.4	69.0	81.1	76.3
1972	94.5	96.9	74.0	78.3	76.4
1973	109.1	109.8	85.5	78.4	77.9
1974	107.3	107.7	86.2	80.3	80.0
1975	109.5	109.5	89.1	81.4	81.4
1976	107.2	106.6	93.4	87.1	87.6
1977	100.0	100.0	100.0	100.0	100.0
1978	100.5	100.2	104.9	104.4	104.7
1979	108.2	104.4	112.2	103.7	107.5
1980	123.7	115.7	124.1	100.3	107.3
1981	132.4	125.1	135.2	102.1	108.1
1982	140.7	134.2	146.6	104.2	109.2
1983	149.2	140.1	159.0	106.6	113.5
1984	145.8	136.8	165.1	113.2	120.7
1985	138.5	128.3	168.6	121.7	131.4
1986 [2]	136.0	124.8	177.9	130.8	142.6
1987 [2]	130.9	119.8	186.1	142.2	155.3
Average annual percent change:					
1967-87	3.5	2.6	6.4	2.8	3.8
1982-87	-2.0	-2.8	4.5	6.6	7.5

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 291. Shoe stores (SIC 5661): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1967–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	95.2	101.1	81.1	85.2	80.2
1968	97.9	101.4	86.7	88.6	85.5
1969	104.3	105.3	92.1	88.3	87.5
1970	95.3	98.6	85.3	89.5	86.5
1971	86.7	90.3	83.9	96.8	92.9
1972	94.6	95.4	88.1	93.1	92.3
1973	100.5	102.5	96.1	95.6	93.8
1974	88.3	90.6	87.4	99.0	96.5
1975	95.1	95.3	89.0	93.6	93.4
1976	97.4	97.6	93.2	95.7	95.5
1977	100.0	100.0	100.0	100.0	100.0
1978	109.5	108.6	112.8	103.0	103.9
1979	112.8	110.8	122.6	108.7	110.6
1980	110.3	107.6	124.5	112.9	115.7
1981	114.2	111.0	133.0	116.5	119.8
1982	110.2	105.6	124.8	113.3	118.2
1983	107.6	103.5	128.6	119.5	124.3
1984	110.1	104.9	129.6	117.7	123.5
1985	117.4	110.7	134.4	114.5	121.4
1986 [2]	125.8	118.4	143.2	113.8	120.9
1987 [2]	124.0	117.5	150.9	121.7	128.4
Average annual percent change:					
1967-87	1.4	.8	3.2	1.8	2.3
1982-87	3.3	2.9	3.8	.5	.9

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 292. Furniture, home furnishings, and equipment stores (SIC 57): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1967–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	70.2	75.8	58.8	83.8	77.6
1968	79.6	82.9	64.8	81.4	78.2
1969	76.5	79.9	66.5	86.9	83.2
1970	80.1	82.6	68.5	85.5	82.9
1971	80.0	83.3	71.4	89.2	85.7
1972	89.1	91.9	82.7	92.8	90.0
1973	95.3	96.4	89.6	94.0	92.9
1974	92.5	94.0	89.5	96.8	95.2
1975	91.9	93.8	86.7	94.3	92.4
1976	95.3	96.7	93.4	98.0	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	100.3	101.0	106.2	105.9	105.2
1979	107.6	107.4	115.7	107.5	107.7
1980	107.4	105.9	113.1	105.3	106.8
1981	112.6	110.0	112.9	100.3	102.6
1982	109.2	105.5	108.3	99.2	102.7
1983	118.4	116.2	124.4	105.1	107.1
1984	129.4	125.2	140.7	108.7	112.4
1985	133.5	128.7	157.4	117.9	122.3
1986 [2]	144.6	137.2	176.5	122.1	128.6
1987 [2]	145.2	137.4	181.6	125.1	132.2
Average annual percent change:					
1967-87	3.3	2.8	5.2	1.8	2.4
1982-87	6.0	5.4	11.3	4.9	5.6

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenure Service, U.S. Department of the Treasury.

Table 293. Furniture and home furnishings stores (SIC 571): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1967–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	71.5	77.1	60.4	84.5	78.3
1968	81.8	85.1	67.5	82.5	79.3
1969	79.5	82.3	69.5	87.4	84.4
1970	79.3	82.1	70.2	88.5	85.5
1971	82.8	85.8	74.8	90.3	87.2
1972	93.0	95.7	87.6	94.2	91.5
1973	96.3	98.4	94.7	98.3	96.2
1974	93.1	95.5	93.5	100.4	97.9
1975	90.1	92.6	85.9	95.3	92.8
1976	94.4	95.8	92.0	97.5	96.0
1977	100.0	100.0	100.0	100.0	100.0
1978	97.9	98.7	105.4	107.7	106.8
1979	104.8	103.8	112.8	107.6	108.7
1980	98.0	97.6	107.3	109.5	109.9
1981	101.2	100.0	104.3	103.1	104.3
1982	97.6	94.2	98.2	100.6	104.2
1983	104.1	102.1	110.4	106.1	108.1
1984	113.1	109.8	122.5	108.3	111.6
1985	108.7	106.6	128.1	117.8	120.2
1986 [2]	115.5	111.5	140.3	121.5	125.8
1987 [2]	116.0	111.6	143.8	124.0	128.9
Average annual percent change:					
1967-87	2.0	1.5	3.8	1.7	2.2
1982-87	3.3	3.1	7.9	4.5	4.7

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenure Service, U.S. Department of the Treasury.

Table 294. Appliance, radio, television, and music stores (SIC 572, 573): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1967–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1967	68.2	74.0	56.5	82.8	76.4
1968	76.3	79.5	60.9	79.8	76.6
1969	72.1	76.3	62.1	86.1	81.4
1970	81.2	83.6	65.9	81.2	78.8
1971	75.9	79.7	66.4	87.5	83.3
1972	83.4	86.2	75.6	90.6	87.7
1973	94.1	93.7	82.3	87.5	87.8
1974	91.8	92.0	83.8	91.3	91.1
1975	94.8	95.6	87.9	92.7	91.9
1976	96.5	97.7	95.3	98.8	97.5
1977	100.0	100.0	100.0	100.0	100.0
1978	104.0	104.6	107.4	103.3	102.7
1979	112.4	113.5	120.5	107.2	106.2
1980	124.0	120.6	122.9	99.1	101.9
1981	132.4	127.1	127.2	96.1	100.1
1982	128.7	124.4	125.0	97.1	100.5
1983	143.4	140.7	148.7	103.7	105.7
1984	155.1	149.0	169.4	109.2	113.7
1985	180.0	169.3	212.6	118.1	125.6
1986 [2]	199.5	184.4	245.2	122.9	133.0
1987 [2]	199.8	184.6	253.3	126.8	137.2
Average annual percent change:					
1967-87	5.3	4.6	7.4	2.0	2.7
1982-87	10.0	8.7	16.2	5.6	6.9

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 295. Household appliance stores (SIC 5722): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87

(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	84.7	88.6	97.2	114.8	109.7
1973	91.2	92.2	99.6	109.4	108.2
1974	91.4	92.4	96.9	106.0	104.9
1975	89.5	90.7	86.5	96.6	95.4
1976	86.4	88.0	91.8	106.3	104.3
1977	100.0	100.0	100.0	100.0	100.0
1978	100.0	100.1	102.5	102.5	102.4
1979	111.3	111.1	113.2	101.7	101.9
1980	109.9	106.7	108.9	99.1	102.1
1981	114.9	110.2	104.1	90.6	94.5
1982	102.0	98.0	97.8	95.9	99.6
1983	111.8	108.7	113.0	101.1	104.0
1984	139.2	133.8	127.5	91.6	95.3
1985	154.6	148.3	152.9	98.9	103.1
1986	178.8	168.4	173.8	97.2	103.2
1987 [2]	185.2	173.6	180.2	97.3	103.8
Average annual percent change:					
1972-87	4.9	4.2	3.9	-.9	-.3
1982-87	13.7	13.0	13.8	.1	.7

[1] All persons include paid employees, unpaid family workers, and the self-employed.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 296. Radio, television, and music stores (SIC 573): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	84.2	85.9	64.7	76.8	75.3
1973	97.9	96.2	73.4	75.0	76.3
1974	93.1	92.7	77.2	82.9	83.3
1975	96.0	98.7	88.7	90.5	89.9
1976	102.9	103.8	97.2	94.5	93.6
1977	100.0	100.0	100.0	100.0	100.0
1978	106.0	107.0	110.0	103.8	102.8
1979	112.7	114.5	124.3	110.3	108.6
1980	131.5	126.0	130.3	99.1	101.8
1981	140.5	135.1	139.4	99.2	103.2
1982	142.4	138.1	139.3	97.8	100.9
1983	159.5	157.4	167.8	105.2	106.6
1984	165.9	159.4	197.8	119.2	124.1
1985	190.2	177.3	245.2	128.9	138.3
1986	206.5	189.8	284.2	137.6	149.7
1987 [2]	204.3	187.9	293.1	143.5	156.0
Average annual percent change:					
1972-87	6.3	5.6	10.3	3.7	4.4
1982-87	8.1	6.5	17.1	8.3	9.9

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Economic Analysis and the Bureau of the Census, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 297. Eating and drinking places (SIC 58): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1963–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1963	91.8	120.1	61.5	67.0	51.2
1964	90.9	119.8	64.2	70.6	53.6
1965	93.7	121.0	68.0	72.6	56.2
1966	94.6	118.4	70.2	74.2	59.3
1967	97.5	118.6	71.4	73.2	60.2
1968	99.7	119.5	75.5	75.7	63.2
1969	97.8	114.1	76.2	77.9	66.8
1970	100.6	114.6	79.3	78.8	69.2
1971	97.9	110.7	79.9	81.6	72.2
1972	101.9	112.2	84.6	83.0	75.4
1973	103.4	111.7	89.1	86.2	79.8
1974	98.9	104.9	88.0	89.0	83.9
1975	100.8	105.5	92.0	91.3	87.2
1976	101.3	104.0	97.1	95.9	93.4
1977	100.0	100.0	100.0	100.0	100.0
1978	99.4	97.5	104.4	105.0	107.1
1979	99.5	95.4	107.8	108.3	113.0
1980	99.8	93.7	107.9	108.1	115.1
1981	97.3	91.7	108.1	111.1	117.9
1982	96.9	91.5	109.6	113.1	119.8
1983	95.3	90.5	112.9	118.5	124.8
1984	91.1	86.5	114.9	126.1	132.8
1985	87.9	82.1	115.4	131.3	140.5
1986 [2]	89.7	83.0	119.7	133.4	144.3
1987 [2]	90.4	84.2	125.6	139.0	149.1
Average annual percent change:					
1958-87	.2	-1.4	3.0	2.8	4.4
1982-87	-1.6	-2.1	2.5	4.2	4.6

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Bureau of Labor Statistics. Persons and hours based on data from the Bureau of Labor Statistics, Bureau of the Census, and the Internal Revenue Service, U.S. Department of the Treasury.

Table 298. Drug and proprietary stores (SIC 5912): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1963–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index					
1963	54.3	66.0	55.9	103.0	84.7
1964	56.4	67.2	58.1	103.1	86.4
1965	59.9	70.2	62.0	103.5	88.3
1966	62.3	72.0	65.9	105.7	91.5
1967	67.0	75.6	70.0	104.4	92.6
1968	73.0	80.4	75.4	103.3	93.8
1969	76.6	82.2	78.4	102.3	95.4
1970	83.4	88.1	84.2	100.9	95.6
1971	85.0	90.0	85.2	100.2	94.7
1972	88.3	92.6	89.3	101.1	96.4
1973	97.1	99.8	96.7	99.6	96.9
1974	96.2	101.2	98.7	100.5	97.5
1975	94.2	100.0	97.7	103.7	97.7
1976	97.1	100.6	99.4	102.4	98.8
1977	100.0	100.0	100.0	100.0	100.0
1978	102.7	102.9	102.5	99.8	99.6
1979	103.8	104.7	105.9	102.0	101.1
1980	107.0	103.8	105.8	98.9	101.9
1981	107.6	103.4	105.8	98.3	102.3
1982	107.9	102.6	103.9	96.3	101.3
1983	111.4	105.4	107.9	96.9	102.4
1984	106.2	104.0	110.8	104.3	106.5
1985	106.5	102.9	112.1	105.3	108.9
1986 [2]	105.6	101.7	114.5	108.4	112.6
1987 [2]	105.9	101.2	117.7	111.1	116.3
Average annual percent change:					
1958-87	3.4	2.3	3.4	1	1.1
1982-87	-.7	-.5	2.4	3.1	2.9

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of the Census and the Bureau of Labor Statistics. All persons and hours based on data from the Bureau of the Census; the Bureau of Labor Statistics; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 299. Liquor stores (SIC 5921): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	101.0	102.8	94.2	93.3	91.6
1973	100.9	104.7	96.7	95.8	92.4
1974	99.6	103.5	96.7	97.1	93.4
1975	96.3	99.4	96.5	100.2	97.1
1976	100.9	101.2	98.0	97.1	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	94.9	92.0	98.4	103.7	106.9
1979	96.6	92.1	101.6	105.2	110.3
1980	102.2	93.1	104.0	101.8	111.7
1981	104.0	93.6	102.1	98.2	109.1
1982	108.1	96.1	99.9	92.4	104.0
1983	121.6	93.5	100.6	99.0	107.6
1984	98.7	89.2	93.8	95.0	105.2
1985	107.1	93.4	97.1	90.7	104.0
1986 [2]	96.0	88.4	94.9	98.8	107.4
1987 [2]	91.6	85.3	92.1	100.6	108.0
Average annual percent change:					
1972-'87	([3])	-1.1	-.1	-.1	1.1
1982-87	-2.4	-2.0	-1.6	.9	.5

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
[3] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 300. Commercial banking (SIC 602): Indexes of output per employee hour, output per employee, output, employee hours, and employees, 1967–86
(1977 = 100)

Year	Output per employee hour	Output per employee	Output	Employee hours	Employees
Index:					
1967	83.8	82.9	52.2	62.3	63.0
1968	85.3	84.4	56.3	66.0	66.7
1969	84.0	83.3	60.0	71.4	72.0
1970	85.5	84.2	64.5	75.4	76.6
1971	88.6	87.5	69.1	78.0	79.0
1972	90.3	89.6	74.3	82.3	82.9
1973	95.9	95.1	83.2	86.8	87.5
1974	89.8	89.5	82.9	92.3	92.6
1975	90.0	89.8	84.6	94.0	94.2
1976	95.0	94.8	91.8	96.6	96.8
1977	100.0	100.0	100.0	100.0	100.0
1978	101.2	101.0	108.0	104.7	104.9
1979	99.3	98.6	108.9	109.7	110.5
1980	92.7	91.7	106.1	114.5	115.7
1981	90.5	90.3	108.1	119.4	119.7
1982	93.2	92.9	113.0	121.3	121.7
1983	101.3	100.5	122.2	120.6	121.6
1984	104.3	104.0	127.5	122.2	122.6
1985	109.7	108.5	135.3	123.3	124.7
1986 [1]	111.7	111.1	140.4	125.7	126.4
Average annual percent change:					
1967-86	1.2	1.3	5.1	3.8	3.8
1982-86	4.5	4.4	5.5	9	1.0

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Federal Reserve Bank of Atlanta; the Board of Governors, Federal Reserve System; the Federal Deposit Insurance Corporation; the U.S. Department of Housing and Urban Development; the VISACARD Network and Interbank Card Network Associations; the American Council of Life Insurance; and the National Automatic Clearing House Association. Employment and hours based on data from the Bureau of Labor Statistics.

Table 301. Hotels, motels, and tourist courts (SIC 7011): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1963–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1963	71.5	87.0	56.2	78.6	64.6
1964	71.7	86.3	57.9	80.7	67.1
1965	77.1	91.8	63.4	82.2	69.1
1966	77.3	90.3	64.6	83.6	71.5
1967	82.9	95.3	69.5	83.8	72.9
1968	80.3	90.9	68.7	85.6	75.6
1969	81.1	90.7	70.6	87.1	77.8
1970	85.1	93.3	73.5	86.5	78.9
1971	76.2	81.7	66.4	87.1	81.3
1972	90.2	95.4	81.2	90.0	85.1
1973	92.1	97.9	86.9	94.4	88.8
1974	89.2	93.5	85.9	96.3	91.9
1975	89.7	91.7	86.2	96.1	94.0
1976	95.7	97.6	94.6	98.9	96.9
1977	100.0	100.0	100.0	100.0	100.0
1978	101.8	101.9	105.3	103.4	103.3
1979	100.0	100.3	111.7	111.7	111.4
1980	95.0	94.5	107.0	112.6	113.2
1981	91.6	91.4	108.0	117.9	118.2
1982	88.8	88.1	106.0	119.4	120.3
1983	96.4	94.8	117.7	123.4	124.1
1984	102.1	101.1	134.0	131.3	132.6
1985	97.5	96.4	136.4	139.9	141.5
1986 [2]	92.8	92.4	136.2	146.8	147.4
1987 [2]	98.0	98.0	136.5	155.1	155.2
Average annual percent change:					
1958-87	1.5	.5	3.9	2.3	3.3
1982-87	-.5	-.4	5.0	5.6	5.4

[1] All persons include paid employees and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 302. Laundry and cleaning services (SIC 721): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1963–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1963	83.1	95.9	150.0	180.5	156.4
1964	89.0	101.2	157.5	177.0	155.7
1965	83.7	95.5	151.9	181.4	159.0
1966	89.0	99.1	160.1	179.9	161.6
1967	95.9	103.2	162.3	169.2	157.2
1968	96.8	103.2	159.4	161.4	154.4
1969	97.1	101.7	153.2	157.7	150.6
1970	94.7	98.4	142.2	150.2	144.5
1971	96.7	98.2	130.4	134.8	132.8
1972	99.2	102.2	129.4	130.4	126.6
1973	98.6	103.0	122.1	123.8	118.5
1974	98.1	100.5	111.0	113.2	110.5
1975	96.6	98.1	104.1	107.8	106.1
1976	97.3	97.9	99.7	102.5	101.8
1977	100.0	100.0	100.0	100.0	100.0
1978	104.3	104.4	103.9	99.6	99.5
1979	97.7	97.5	99.5	101.8	102.1
1980	91.0	90.7	94.7	104.1	104.4
1981	88.4	87.1	88.1	99.7	101.2
1982	90.6	87.4	84.6	93.4	96.8
1983	90.4	87.7	87.1	96.4	99.3
1984	92.3	89.9	92.8	100.5	103.2
1985	87.3	86.3	92.8	106.3	107.5
1986 [2]	85.0	84.5	92.1	108.3	109.0
1987 [2]	84.0	82.6	93.7	111.5	113.4
Average annual percent change:					
1958-87	.3	-.4	-2.3	-2.6	-1.9
1982-87	-1.8	-1.2	2.0	3.8	3.2

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output, persons, and hours based on data from the Bureau of Labor Statistics; Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 303. Beauty and barber shops (SIC 7231, 7241): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	105.0	109.0	108.6	103.4	99.6
1973	100.7	105.1	106.7	106.0	101.5
1974	101.4	102.6	101.5	100.1	98.9
1975	98.7	99.3	97.6	98.9	98.3
1976	95.0	95.8	94.4	99.4	98.5
1977	100.0	100.0	100.0	100.0	100.0
1978	103.6	102.9	105.3	101.6	102.3
1979	107.4	104.2	105.6	98.3	101.3
1980	102.9	99.7	103.6	100.7	103.9
1981	109.2	104.7	99.9	91.5	95.4
1982	108.3	101.1	97.8	90.3	96.7
1983	114.0	106.4	109.7	96.2	103.1
1984	103.9	100.5	108.5	104.4	108.0
1985	98.6	97.9	110.9	112.5	113.3
1986 [2]	97.3	96.3	113.2	116.3	117.6
1987 [2]	99.2	98.1	117.8	118.7	120.1
Average annual percent change:					
1972-87	.1	–.3	.7	.6	1.0
1982-87	–2.7	–1.4	3.0	5.9	4.5

[1] All persons include paid employees and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 304. Beauty shops (SIC 7231): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	110.1	112.8	103.9	94.4	92.1
1973	106.2	108.7	102.1	96.1	93.9
1974	105.2	106.1	99.6	93.8	93.9
1975	100.1	99.0	94.5	94.4	95.5
1976	94.3	94.7	91.3	96.8	96.4
1977	100.0	100.0	100.0	100.0	100.0
1978	104.7	104.2	106.2	101.4	101.9
1979	108.0	106.0	108.4	100.4	102.3
1980	106.2	102.7	107.2	100.9	104.4
1981	114.7	109.6	105.1	91.6	95.9
1982	113.1	105.6	103.9	91.9	98.4
1983	120.1	113.4	119.5	99.5	105.4
1984	112.3	108.6	119.7	106.6	110.2
1985	104.1	104.0	121.9	117.0	117.1
1986 [2]	98.8	99.0	124.3	125.8	125.6
1987 [2]	100.4	100.8	130.0	129.5	129.0
Average annual percent change:					
1972-87	.2	-.1	1.8	1.7	1.9
1982-87	-3.5	-1.9	3.7	7.4	5.7

[1] All persons include paid employees and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Table 305. Automotive repair shops (SIC 753): Indexes of output per hour of all persons, output per person, output, hours of all persons, and all persons,[1] 1972–87
(1977 = 100)

Year	Output per hour of all persons	Output per person	Output	Hours of all persons	All persons
Index:					
1972	103.9	104.7	83.1	80.0	79.4
1973	104.5	107.6	88.7	84.9	82.4
1974	108.4	111.2	93.3	86.1	83.9
1975	102.0	103.0	92.9	91.1	90.2
1976	104.3	105.3	97.9	93.9	93.0
1977	100.0	100.0	100.0	100.0	100.0
1978	100.9	100.6	106.1	105.2	105.5
1979	100.4	101.3	112.0	111.6	110.6
1980	95.9	96.2	106.9	111.5	111.1
1981	93.3	92.2	103.0	110.4	111.7
1982	87.4	86.6	102.0	116.7	117.8
1983	86.1	85.9	108.6	126.2	126.4
1984	88.3	87.7	119.6	135.5	136.4
1985	96.1	95.3	138.8	144.5	145.7
1986	93.2	93.5	139.3	149.4	149.0
1987 [2]	98.4	96.9	145.3	147.7	150.0
Average annual percent change:					
1972-87	-1.1	-1.3	3.2	4.3	4.5
1982-87	2.6	2.6	7.9	5.1	5.2

[1] All persons include paid employees, unpaid family workers, and the self-employed.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Bureau of Labor Statistics and the Bureau of the Census. Persons and hours based on data from the Bureau of Labor Statistics; the Bureau of the Census; and the Internal Revenue Service, U.S. Department of the Treasury.

Part II. Multifactor Productivity Trends for Selected Industries

In multifactor productivity measures, output is related to combined inputs of labor, capital, and intermediate purchases. The relationship between multifactor productivity and labor productivity (in which output is related only to labor input) is shown in table 306 and is illustrated in charts 2 through 5.

Multifactor productivity is equal to output per hour adjusted to remove the effects of changes in capital per hour and intermediate purchases per hour. These effects are measured as the change in the ratio of nonlabor to labor inputs, weighted by the nonlabor input's share in total output. The capital effect, for example, is the change in the capital-labor ratio weighted by capital's share in output. Multifactor productivity measures still reflect the impact of many influences such as economies of scale, capacity utilization, and skill and effort of the work force as well as technological change. Tables 307, 309, 311, and 313 present indexes of multifactor productivity and single factor productivity, where output is related to each single factor alone. Tables 308, 310, 312, and 314 present the indexes of output, combined inputs, and inputs of labor, capital, and intermediate purchases separately.

Current developments

Multifactor productivity rose during 1986 in tires and inner tubes (2.8 percent) and steel (2.2 percent), but declined in motor vehicles (5.0 percent) and footwear (0.2 percent). All four industries experienced output declines, but in steel, and tires and inner tubes, combined inputs fell faster than output. In tires and inner tubes, output fell 3.7 percent while combined inputs dropped 6.2 percent. Labor hours and intermediate purchases fell significantly (6.1 percent and 8.3 percent, respectively), while capital declined slightly, by 0.4 percent.

In steel, the fall in output of 4.3 percent was exceeded by the reduction in combined inputs of 6.3 percent. Substantial declines were recorded for labor (8.5 percent), capital (5.1 percent), and intermediate purchases (5.2 percent). (See chart 2.)

In footwear, the fall in output (11.0 percent) was not quite matched by the reduction in combined inputs (10.8 percent). The decline in labor hours (12.7 percent) and in intermediate purchases (11.7 percent) exceeded the drop in output, but capital fell somewhat less (4.7 percent).

In motor vehicles, the decline in output of 2.9 percent was accompanied by an increase of 2.3 percent in combined inputs. Although labor hours fell (3.4 percent), both capital and intermediate purchases increased (2.9 percent and 3.8 percent, respectively).

From 1982 to 1986, substantial average annual gains in multifactor productivity were recorded in tires and inner tubes (2.8 percent), steel (5.9 percent), and motor vehicles (2.8 percent). In tires and tubes, the elimination of older, less efficient plants is continuing to yield productivity gains. Strong output increases in 1983 and 1984 led to substantial gains in multifactor productivity in those years. The closing of older plants has also been a spur to productivity advances in steel, as has the increasing shift toward continuous casting of finished products.

In motor vehicles, sharp output gains in 1983 and 1984 (29.3 percent and 22.3 percent, respectively) were accompanied by strong gains in multifactor productivity in those years (6.4 percent and 4.6 percent, respectively). (See chart 3.)

In footwear, however, multifactor productivity declined by 2.7 percent per year on average. In this industry, output fell sharply in this period (36 percent) due to a strong rise in imports of shoes. This steep decline in output (an acceleration of an earlier trend), combined with slow rates of introduction and diffusion of technological innovations, has made it very difficult to attain productivity gains in this industry.

Table 306. Multifactor productivity growth and its relationship to output per hour for selected industries, 1958-86

(Average annual percent change)

Measure	Tires and inner tubes	Footwear	Steel	Motor vehicles and equipment
Multifactor productivity equals	1.7	-0.9	1.0	1.2
Output per hour minus	3.2	0.6	2.3	2.9
Capital effect[1] minus	0.4	0.6	0.2	(2)
Intermediate purchases effect[3]	1.1	0.9	1.1	1.7

[1] The capital effect is the change in capital relative to labor over the given time period weighted by the share of capital in total output.

[2] Less than 0.05 percent.

[3] The intermediate purchases effect is the change in intermediate purchases relative to labor over the given time period weighted by the share of intermediate purchases in total output.

New measures

Tires and inner tubes (SIC 3011). Multifactor productivity in the tires and tubes industry increased at a rate of 1.7 percent over the 1958-86 period as output rose 2.4 percent and combined

Chart 2. Multifactor productivity for steel (SIC 331, 1958–86

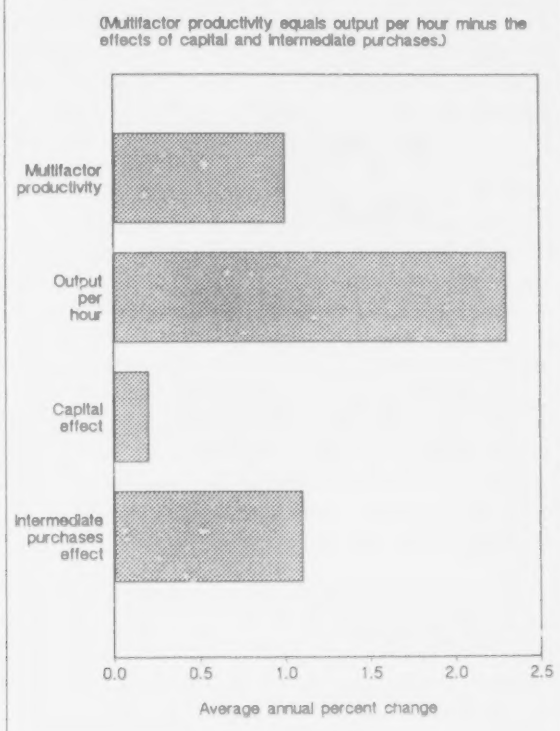


Chart 3. Multifactor productivity for motor vehicles and equipment (SIC 371), 1958–86

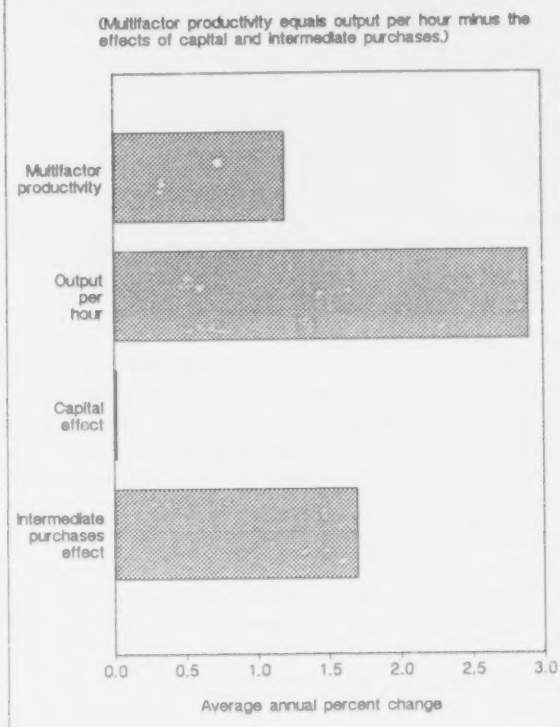


Chart 4. Multifactor productivity for tires and inner tubes (SIC 3011), 1958–86

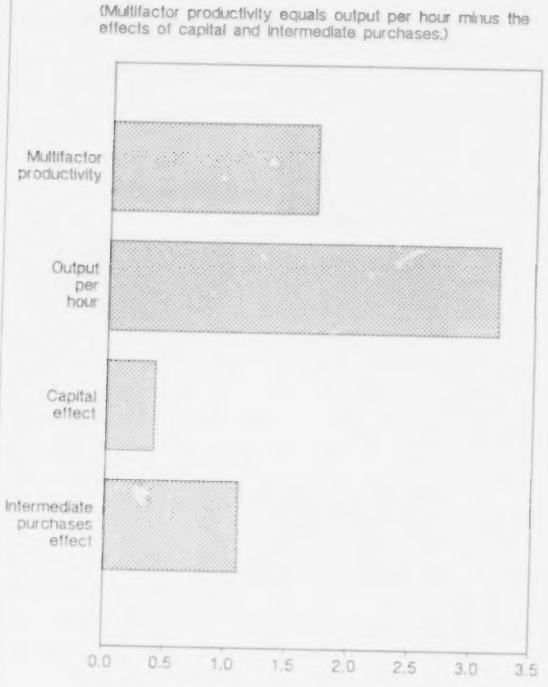
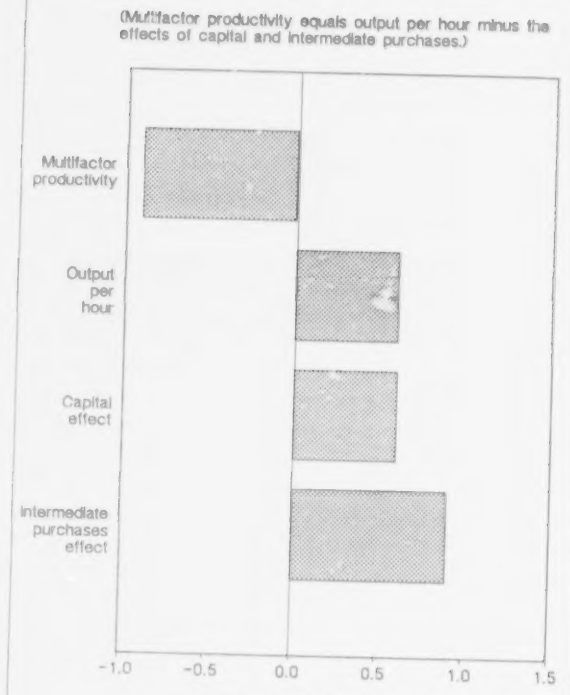


Chart 5. Multifactor productivity for footwear (SIC 314), 1958–86



inputs rose only slightly, at a rate of 0.7 percent per year on average. In comparison, labor productivity recorded an average annual gain of 3.2 percent. The difference between labor productivity and multifactor productivity was the result of increases in the capital effect (the change in the capital-labor ratio over time multiplied by the share of capital in total output) of 0.4 percent and in the intermediate purchases effect (the change in the ratio of intermediate purchases to labor over time multiplied by the share of intermediate purchases in total output) of 1.1 percent. (See chart 4.)

The 3.2-percent gain in output per hour was somewhat higher than the 2.5-percent rate for all manufacturing. The industry did not experience a post-1973 slowdown in output per hour, as did total manufacturing. Output per hour accelerated slightly, to a 4.3-percent average annual increase for the 1973-86 period as compared to a 3.9-percent average annual gain in the 1958-73 period. Multifactor productivity accelerated more than labor productivity after 1973, from an average annual gain of 1.1 percent per year in the previous period to a 3.6-percent per year average annual increase between 1973 and 1986. The slight acceleration in output per hour occurred in spite of decreases in the growth rate of the capital effect and in the intermediate purchases effect because of this relatively rapid increase in multifactor productivity.

Upswings in both output per hour and multifactor productivity were aided by the rapid diffusion of radial tire technology and computer-assisted innovations throughout the entire manufacturing process. Computer monitors are now being used to schedule the wide variety of styles and sizes to ensure that all capital equipment is being fully utilized and to monitor the tire construction process to ensure the efficient use of materials.

Output grew at an average annual rate of 5.7 percent in the period 1958-73, then fell off precipitously in the following period, declining at a rate of 0.9 percent. Total tire production has been affected by declines in both the replacement and original tire markets. One key factor in the falloff in the replacement market since the 1970's has been the greater longevity of car tires brought about by the introduction of radials. At the same time, the original tire market was adversely affected by decreases in domestic car production. Domestic tiremakers not only faced contraction in the domestic tire market, but at the same time confronted a growing import share due to increased tire imports from France, Japan, and South Korea.

Footwear (SIC 314). Multifactor productivity in the nonrubber footwear industry declined at a rate of 0.9 percent over the period 1958-86 as output fell 3.0 percent and combined inputs dropped 2.1 percent per year on average. This compared with a 0.6-percent average annual gain in output per hour. The difference between labor productivity (output per hour) and multifactor productivity was the result of increases in the capital effect (the change in the capital-labor ratio over time multiplied by the share of capital in total output) of 0.6 percent and in the intermediate purchases effect (the change in the intermediate purchases-labor ratio over time multiplied by the share of intermediate purchases in total output) of 0.9 percent. (See chart 5.)

Output of the U.S. footwear industry has been adversely affected by import competition. The ratio of imports to U.S. consumption of nonrubber shoes rose from 4 percent in 1960 to 80 percent in 1986 in quantity terms. After a slight, general upward trend from 1958 through 1968, output of domestically produced shoes fell in every year since 1969, except for one small gain in 1976. In 1986, output was less than half the rate of the late 1960's.

Technological changes have been introduced only slowly in this industry. Innovations in equipment have been hampered by the necessity to accommodate frequent style changes in footwear. Also, what new equipment has been developed is too costly for many of the smaller firms because long production runs are not possible due to those frequent style changes. Most of the innovations in technology have been incremental improvements in existing machine designs; even these improvements have not diffused rapidly in the industry.

The 0.6-percent gain in output per hour was considerably below the 2.5-percent rate for all manufacturing. However, the footwear industry did not experience a post-1973 slowdown in output per hour, as did total manufacturing. Output per hour actually accelerated slightly, to a 0.9-percent average annual increase in the 1973-86 period. Multifactor productivity also improved after 1973, from a decline of 1.2 percent per year to a 0.5-percent drop, on average, in the 1973-86 period.

Table 307. Tires and inner tubes (SIC 3011): Multifactor and related productivity indexes,[1] 1963–86
(1977 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1963	87.7	72.9	97.1	91.6
1964	92.8	79.4	104.2	95.6
1965	92.1	80.9	103.5	93.9
1966	90.8	82.4	104.4	90.9
1967	86.3	82.2	90.8	86.6
1968	91.0	87.8	100.9	89.7
1969	87.4	85.1	91.6	87.0
1970	86.4	87.2	80.4	87.6
1971	91.7	93.5	87.9	91.6
1972	93.5	97.1	94.0	91.2
1973	92.7	94.3	90.4	92.2
1974	90.8	92.2	86.8	91.0
1975	87.3	90.8	73.0	89.9
1976	90.9	99.4	77.4	91.3
1977	100.0	100.0	100.0	100.0
1978	103.6	108.1	99.5	102.7
1979	105.5	107.6	99.2	106.1
1980	103.4	102.2	80.5	110.0
1981	112.1	118.1	91.3	114.8
1982	118.9	128.8	93.0	121.9
1983	126.9	136.6	107.2	126.6
1984	132.6	147.7	128.2	124.2
1985	130.9	147.3	120.5	124.0
1986 [2]	134.5	151.2	116.5	130.2
Average annual percent change:				
1958-86	1.7	3.2	.4	1.4
1982-86	2.8	4.0	5.8	1.1

[1] The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.

[2] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association, the Bureau of the Census, and the Bureau of Labor Statistics. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis, the Bureau of the Census; and the Bureau of Labor Statistics.

Table 308. Tires and inner tubes (SIC 3011): Output and input indexes, 1963–86
(1977 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1963	54.2	61.7	74.3	55.8	59.1
1964	61.0	65.8	76.9	58.6	63.8
1965	64.6	70.1	79.9	62.4	68.8
1966	69.2	76.2	84.0	66.3	76.2
1967	64.3	74.5	78.2	70.8	74.3
1968	78.1	85.9	88.9	77.4	87.1
1969	79.9	91.5	94.0	87.2	91.9
1970	75.7	87.6	86.9	94.2	86.5
1971	84.9	92.6	90.8	96.6	92.8
1972	92.8	99.2	95.6	98.7	101.8
1973	93.6	100.9	99.2	103.5	101.4
1974	94.8	104.4	102.8	109.2	104.1
1975	82.0	93.9	90.2	112.2	91.2
1976	81.4	89.6	81.9	105.2	89.1
1977	100.0	100.0	100.0	100.0	100.0
1978	97.2	93.8	89.8	97.6	94.6
1979	94.1	89.2	87.4	94.9	88.7
1980	73.5	71.1	71.9	91.3	66.9
1981	79.0	70.5	66.9	86.5	68.9
1982	75.0	63.0	58.2	80.6	61.5
1983	79.8	62.9	58.4	74.4	63.0
1984	91.3	68.9	61.9	71.2	73.6
1985	86.8	66.3	58.9	72.0	70.0
1986 [1]	83.6	62.2	55.3	71.7	64.2
Average annual percent change:					
1958-86	2.4	.7	-.8	2.1	1.0
1982-86	3.1	.3	-.9	-2.6	1.9

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output based on data from the Rubber Manufacturers Association; the Bureau of the Census; and the Bureau of Labor Statistics. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 309. Footwear (SIC 314): Multifactor and related productivity indexes,[1] 1963–86
(1977 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1963	118.8	94.2	153.3	127.2
1964	117.7	94.0	153.7	124.7
1965	115.1	93.0	149.9	121.3
1966	115.9	94.6	150.4	121.3
1967	105.8	92.6	134.8	106.3
1968	108.3	95.9	139.8	107.7
1969	101.6	89.8	120.5	104.1
1970	103.7	96.6	118.7	103.8
1971	102.8	98.3	114.7	101.9
1972	101.5	95.9	115.6	100.8
1973	101.0	94.9	106.1	103.1
1974	97.8	93.8	98.2	100.0
1975	97.1	97.6	94.3	97.6
1976	99.4	98.2	101.8	99.3
1977	100.0	100.0	100.0	100.0
1978	101.6	101.8	100.0	101.9
1979	106.5	99.7	98.2	113.0
1980	99.2	98.0	94.6	101.0
1981	95.6	95.0	91.1	97.2
1982	100.3	106.0	88.1	101.6
1983	99.2	104.1	85.2	101.8
1984	97.6	105.0	77.9	101.6
1985	91.4	105.4	69.4	93.5
1986 [2]	91.2	107.4	64.7	94.3
Average annual percent change:				
1958-86	-.9	.6	-3.0	-1.1
1982-86	-2.7	.4	-7.9	-2.3

[1] The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 310. Footwear (SIC 314): Output and input indexes, 1963–86
(1977 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1963	140.3	118.1	149.0	91.5	110.3
1964	143.4	121.9	152.6	93.3	114.9
1965	143.9	125.0	154.8	96.0	118.6
1966	148.3	128.0	156.8	98.6	122.3
1967	138.6	131.0	149.7	102.8	130.3
1968	147.4	136.0	153.7	105.4	136.9
1969	132.1	129.9	147.1	109.6	126.8
1970	130.1	125.5	134.7	109.6	125.4
1971	122.6	119.2	124.7	106.9	120.3
1972	121.5	119.7	126.6	105.1	120.5
1973	114.0	112.9	120.2	107.4	110.6
1974	105.8	108.2	112.8	107.8	105.8
1975	98.2	101.2	100.7	104.2	100.6
1976	101.7	102.3	103.5	99.9	102.4
1977	100.0	100.0	100.0	100.0	100.0
1978	99.5	97.9	97.7	99.5	97.6
1979	94.0	88.3	94.3	95.7	83.2
1980	90.3	91.1	92.2	95.5	89.4
1981	87.9	91.9	92.5	96.5	90.4
1982	86.3	86.0	81.4	97.9	84.9
1983	80.8	81.4	77.6	94.8	79.4
1984	71.8	73.5	68.3	92.2	70.7
1985	62.1	67.9	59.0	89.6	66.4
1986 [1]	55.3	60.6	51.5	85.4	58.6
Average annual percent change:					
1958-86	-3.0	-2.1	-3.5	-.1	-1.9
1982-86	-10.9	-8.4	-11.2	-3.3	-8.6

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the Bureau of the Census. Hours based on data from the Bureau of the Census and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 311. Steel (SIC 331): Multifactor and related productivity indexes,[1] 1963–86
(1977 = 100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1963	91.5	78.1	91.8	101.5
1964	98.0	82.4	103.6	107.3
1965	100.9	85.3	108.9	109.3
1966	100.9	87.4	105.8	109.0
1967	92.9	84.8	93.4	98.5
1968	93.4	86.4	93.9	97.9
1969	94.5	88.4	95.8	98.1
1970	93.0	86.7	88.6	96.8
1971	94.4	90.7	85.4	99.7
1972	96.6	96.4	94.4	97.2
1973	104.0	105.8	112.9	101.6
1974	110.7	109.4	121.8	108.2
1975	95.6	96.0	92.7	95.9
1976	100.8	99.8	97.9	101.9
1977	100.0	100.0	100.0	100.0
1978	104.8	105.2	110.0	103.6
1979	104.4	106.6	114.3	101.5
1980	102.4	105.8	99.5	100.7
1981	101.6	112.1	108.2	95.5
1982	95.4	98.1	72.5	96.8
1983	115.0	119.5	82.6	114.0
1984	119.4	131.3	95.4	113.6
1985	121.9	138.6	95.8	114.4
1986 [2]	124.6	145.1	96.7	115.7
Average annual percent change:				
1958-86	1.0	2.3	.4	.2
1982-86	5.9	9.8	7.4	3.7

[1] The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of production.
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Hours based on data from the American Iron and Steel Institute and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 312. Steel (SIC 331): Output and input indexes, 1963–86
(1977 = 100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1963	82.1	89.8	105.2	89.4	80.9
1964	94.3	96.3	114.5	91.0	87.9
1965	102.0	101.1	119.6	93.7	93.3
1966	103.3	102.3	118.1	97.6	94.8
1967	96.0	103.4	113.3	102.8	97.5
1968	100.2	107.3	115.9	106.7	102.3
1969	104.3	110.4	118.1	108.9	106.3
1970	97.1	104.4	112.1	109.6	98.3
1971	92.2	97.7	101.7	107.9	92.5
1972	99.3	102.8	102.9	105.2	102.2
1973	116.2	111.7	111.9	102.9	114.4
1974	122.4	110.3	111.9	100.5	113.1
1975	93.0	97.2	96.8	100.3	97.0
1976	98.1	97.6	98.6	100.5	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	108.7	103.7	103.3	98.8	104.9
1979	111.3	106.6	104.5	97.4	109.7
1980	95.3	93.1	90.1	95.8	94.6
1981	102.0	100.4	91.0	94.3	106.8
1982	66.6	69.1	67.9	91.8	68.8
1983	72.4	63.0	60.6	87.7	63.5
1984	80.1	67.0	60.9	83.9	70.4
1985	77.2	63.2	55.6	80.5	67.4
1986 [1]	73.9	59.2	50.9	76.4	63.9
Average annual percent change:					
1958-86	.2	-.8	-2.0	-.2	(2)
1982-86	2.8	-3.0	-6.4	-4.4	-.9

[1] Preliminary.
[2] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from the American Iron and Steel Institute; the Energy Information Administration, U.S. Department of Energy; and the Bureau of the Census. Hours based on data from the American Iron and Steel Institute and the Bureau of Labor Statistics. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 313. Motor vehicles and equipment (SIC 371): Multifactor and related productivity indexes,[1] 1963-86
(1977=100)

Year	Multifactor productivity	Output per hour	Output per unit of capital	Output per unit of intermediate purchases
Index:				
1963	84.2	64.9	70.4	97.6
1964	83.9	65.4	68.2	97.7
1965	87.1	69.8	76.7	97.3
1966	85.2	69.8	71.0	96.4
1967	81.4	70.0	61.9	92.6
1968	87.8	76.0	73.6	96.9
1969	88.2	74.4	70.8	99.9
1970	81.8	71.4	56.3	95.1
1971	85.6	83.0	72.3	90.1
1972	89.2	84.7	79.4	93.3
1973	92.4	86.1	87.4	95.8
1974	91.5	82.2	71.8	100.7
1975	93.1	88.1	68.6	101.5
1976	97.9	94.1	89.5	101.4
1977	100.0	100.0	100.0	100.0
1978	100.1	99.6	98.0	100.7
1979	98.8	97.5	86.8	102.0
1980	89.5	89.8	61.8	95.0
1981	90.3	92.0	62.9	95.1
1982	90.9	96.2	57.2	95.6
1983	96.7	109.4	80.7	94.1
1984	101.1	115.3	104.1	93.9
1985	105.2	121.3	110.9	96.9
1986[2]	99.9	121.8	104.8	90.6
Average annual percent change:				
1958-86	1.2	2.9	2.1	.1
1982-86	2.8	5.9	16.4	-.8

[1] The output measures underlying the productivity indexes relate to the total net production of the industry. They do not relate to the specific output of any single factor of productio...
[2] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

Table 314. Motor vehicles and equipment (SIC 371): Output and input indexes, 1963-86
(1977=100)

Year	Output	Combined inputs	Hours	Capital	Intermediate purchases
Index:					
1963	49.6	58.9	76.5	70.5	50.8
1964	51.0	60.8	78.0	74.0	52.2
1965	62.4	71.6	89.3	81.4	64.1
1966	62.2	72.9	89.1	87.6	64.5
1967	56.6	69.6	80.9	91.4	61.1
1968	69.1	78.7	90.9	93.9	71.3
1969	68.7	77.8	92.3	97.0	68.8
1970	55.8	68.2	78.2	99.1	58.7
1971	70.1	81.9	84.5	97.0	77.8
1972	76.8	86.1	90.6	96.7	82.3
1973	86.2	95.5	102.4	100.9	92.1
1974	73.7	80.5	89.7	102.7	73.2
1975	68.2	73.2	77.4	99.4	67.2
1976	86.0	87.9	91.4	96.1	84.8
1977	100.0	100.0	100.0	100.0	100.0
1978	104.2	104.1	104.7	106.3	103.5
1979	96.2	97.3	98.7	110.8	94.3
1980	68.9	76.9	76.8	111.5	72.5
1981	71.9	79.6	78.1	114.3	75.6
1982	65.9	72.5	68.5	115.3	68.9
1983	85.2	88.0	77.9	105.6	90.5
1984	104.2	103.1	90.4	100.1	111.0
1985	112.0	106.5	92.4	101.1	115.6
1986[1]	108.8	108.9	89.3	104.0	120.0
Average annual percent change:					
1958-86	3.8	2.6	.9	1.6	3.6
1982-86	13.6	10.6	7.3	-2.4	14.5

[1] Preliminary.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.
SOURCE: Output based on data from company records; the Motor Vehicle Manufacturers Association of the U.S., Inc.; the Gousha/Times Mirror Company (Automobile Invoice Service); Ward's Communications, Inc. (Ward's Automotive Yearbooks); the Bureau of the Census; and the Bureau of Labor Statistics. Hours based on data from the Bureau of Labor Statistics and company records. Capital based on data from the Internal Revenue Service, U.S. Department of the Treasury; Moody's Investor's Service; the Bureau of Economic Analysis, U.S. Department of Commerce; the Bureau of the Census; and the Bureau of Labor Statistics. Intermediate purchases based on data from the Bureau of Economic Analysis; the Bureau of the Census; and the Bureau of Labor Statistics.

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Part III. Labor Productivity Trends for Selected Government Functions and Services

Federal Government

Current developments

Output per employee year increased 0.2 percent in fiscal 1987 in the measured portion of Federal Government organizations (table 315). This gain reflected a 1.4-percent increase in output and a 1.2-percent increase in employee years.

The overall productivity measure covers 61 Federal agencies and is based on data representing 372 organizational units in fiscal year 1987. The organizations include 2.1 million Executive Branch civilian employees representing 69 percent of the total Federal civilian labor force.

The 372 Federal organizations are divided into 28 functional categories based on similarity of tasks performed (for example, auditing, medical, personnel, transportation) to better identify and understand the forces which affect Federal productivity. (See table 316.) The change in output per employee year for the 28 functions in 1987 ranged from an increase of 17.0 percent for traffic management to a decline of 18.8 percent for electric power production and distribution. Productivity increased in 15 functions, decreased in 12, and remained unchanged in one.

The traffic management function, which includes those organizations responsible for arranging the movement of people and goods, showed a 17.0-percent increase in productivity in 1987. Output increased in 1987 by 12.0 percent while employee years decreased by 4.2 percent. Two of the three organizational units included under this function experienced increasing output in 1987 but all three showed declines in employee years.

In contrast, the electric power production and distribution function showed a decline of 18.8 percent due to a 15.5-percent decrease in output and a 4.0-percent increase in employee years. Output declined in four of the six organizations while employee years increased in two, remained unchanged in two, and decreased in two. Four of the six organizations in this function experienced productivity declines in 1987.

The largest of the 28 functions in terms of employees includes only a single organization, the U.S. Postal Service. Productivity remained unchanged in 1987. By comparison, the Postal Service productivity rose 1.6 percent in 1986. During 1987, output increased 3.5 percent while labor increased 3.4 percent.

Table 315. Federal Government–Total sample: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	86.5	86.4	99.9	43.9	50.7
1968	87.5	89.6	102.5	46.1	52.7
1969	89.6	92.5	103.3	49.5	55.3
1970	90.0	92.8	103.1	55.1	61.3
1971	91.4	94.0	102.8	61.5	67.3
1972	92.0	94.2	102.4	66.0	71.7
1973	94.6	95.7	101.2	69.9	74.0
1974	94.1	95.9	101.9	75.7	80.4
1975	95.5	97.5	102.1	83.0	86.9
1976	97.1	98.3	101.1	91.8	94.5
1977	100.0	100.0	100.0	100.0	100.0
1978	101.7	102.3	100.6	106.8	105.1
1979	102.3	103.1	100.7	113.7	111.2
1980	104.5	106.1	101.5	123.1	117.8
1981	107.0	107.6	100.5	134.8	126.0
1982	108.6	108.9	100.3	143.6	132.3
1983	110.2	111.6	101.3	150.5	136.6
1984	110.2	114.1	103.5	157.5	142.9
1985	110.9	117.0	105.5	165.6	149.3
1986	112.7	119.8	106.2	170.6	151.3
1987	113.0	121.5	107.5	177.1	156.8
Average annual percent change:					
1967-87	1.4	1.6	.1	7.7	6.1
1982-87	.8	2.3	1.5	4.3	3.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 316. Definitions of functional categories

Audit of operations: Organizations responsible for reviewing, evaluating, and analyzing Federal programs and operations.

Buildings and grounds: Organizations responsible for the construction, maintenance, repair, alteration, services, and security of Federal buildings, installations, or grounds.

Communications: Organizations responsible for processing messages and performing telecommunications services.

Education and training: Organizations responsible for providing general or specialized education or training.

Electric power production and distribution: Organizations responsible for generating, transmitting, or selling electricity.

Equipment maintenance: Organizations responsible for the maintenance and repair of motor vehicles and equipment and the calibration of instruments.

Finance and accounting: Organizations responsible for maintaining accounting records, processing payroll vouchers and invoices, and related activities.

General support services: Organizations performing overall administrative and supportive activities including automatic data processing, internal mail delivery, graphics, and planning.

Information services: Organizations responsible for preparing or distributing statistical, scientific, technical, or other information.

Legal and judicial activities: Organizations responsible for instituting proceedings in a court or administrative tribunal or rendering decisions in a judicial capacity.

Library services: Organizations responsible for providing research and reference services for Federal agencies, Congress, or the public.

Loans and grants: Organizations responsible for issuing research grants, making awards, offering various types of loans, and borrowing funds from the public.

Medical services: Organizations responsible for operating health care facilities and providing medical, hospital, dental, laboratory, or nursing service for disease prevention or treatment.

Military base services: Military organizations responsible for providing commissary, laundry, dry cleaning, or food services.

Natural resources and environmental management: Organizations responsible for developing or overseeing programs which affect natural resources or the environment.

Personnel investigations: Organizations responsible for conducting personnel security checks or criminal investigations of Federal employees.

Personnel management: Organizations responsible for providing personnel services including recruitment, position classification, employee development, and equal employment opportunity counselling.

Postal service: U.S. Postal Service which delivers mail and provides related services (SIC 4311).

Printing and duplication: Organizations responsible for printing or reproducing reports, manuals, circulars, or other documents.

Procurement: Organizations responsible for purchasing supplies, equipment, or services.

Records management: Organizations responsible for maintaining, classifying, storing, or searching records.

Regulation—compliance and enforcement: Organizations engaged in activities to ensure compliance with established rules and regulations.

Regulation—rulemaking and licensing: Organizations responsible for issuing licenses, permits, or other authorizations in government-controlled activities.

Social services and benefits: Organizations responsible for the payment of benefits or claims, or for improving the welfare of the public or a special group.

Specialized manufacturing: Organizations involved in the production of physical outputs such as helium, munitions, chemicals, and currency.

Supply and inventory control: Organizations responsible for distributing supplies and equipment and for the management of inventories.

Traffic management: Organizations responsible for arranging for the movement of people or cargo.

Transportation: Organizations responsible for moving or assisting in the movement of people or cargo.

Long-term trends

Over the period 1967-87, output per employee year in the measured portion of the Federal Government rose at an average annual rate of 1.4 percent (chart 6). The year-to-year productivity changes ranged from a decline of 0.5 percent in 1974, the only year in which productivity declined, to an increase of 2.9 percent in 1977. The overall increase in Federal productivity reflected an average rise of 1.6 percent in output and a 0.1-percent increase in labor input. Output increased annually at rates ranging from 0.2 percent in 1972 and 1974 to 3.7 percent in 1968. Annual rates of change in employee years ranged from a drop of 1.2 percent in 1973 to an increase of 2.6 percent in 1968.

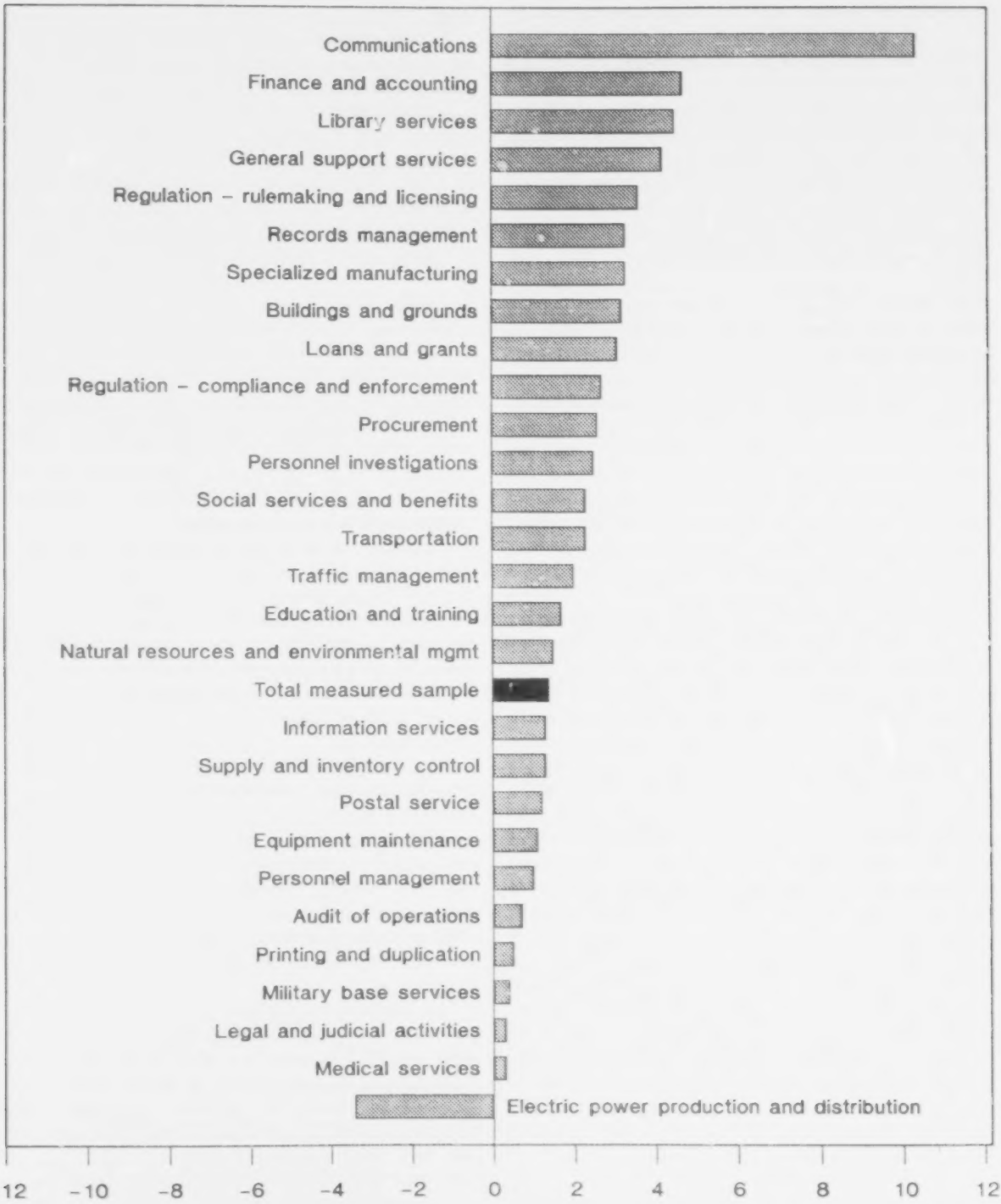
Long-term productivity trends for the 28 functions ranged from a 10.4-percent annual growth for communications to a 3.4-percent annual decline for electric power production and distribution. The latter function is the only one to show a decline over the long term.

Shifts in program emphasis and delivery of government services over the long term are reflected in both output and employee year trends. In 6 of the 28 functions, output indexes declined. Long-term output trends ranged from an annual average increase of 10.1 percent for communications to a 2.7-percent average annual decline for military base services. Long-term employee year trends ranged from a 4.1-percent

recent years. Between 1982 and 1987, the average annual percent increase was 6.2 percent, and in 1987 it was 4.8 percent. The exceptional productivity increases are primarily due to technological improvements in equipment that receives and transmits messages instantaneously all over the world. The six organizations that are included in this functional group in 1987 are in the Department of Defense, the General Services Administration, and the Department of State.

Chart 6. Output per employee year in the Federal Government by functional category and for total measured sample, fiscal years 1967–87

(Average annual percent change)



SOURCE: Bureau of Labor Statistics, U.S. Department of Labor.

average annual increase for electric power production and distribution to an average annual decline of 3.7 percent for supply and inventory control.

Communications had the largest average annual increase in productivity over the long term (10.4 percent for1973-87) of any of the 28 functions. Between 1973 and 1982, productivity increased at an average annual rate of 11.8 percent. However, the increase has slowed dramatically in support. General support, buildings and grounds, and library services were the only three functions that showed decreasing compensation per employee year. The change in unit labor cost ranged from a 29.6-percent increase for electric power production and distribution to a 12.0-percent decrease for traffic management. Seven of the 28 functions showed decreasing unit labor cost in 1987.

The function with the second largest long-term average annual increase in productivity (4.7 percent) is finance and accounting, which includes internal government operations such as payroll and voucher operations, and final government services, such as Treasury bill and bond sales to the public. In 1987, there were 22 organizations included under this function. Finance and accounting productivity, which has improved in 16 of the 20 years measured, has been driven by the automation of many of the routine processing operations. In one organization that serves the public, productivity doubled in one year as output mushroomed, operations were mechanized, and employment was held roughly constant.

Electric power production and distribution registered the only long-term decrease in productivity of the 28 functions (3.4 percent for 1967-87). Between 1967 and 1972, productivity increased at an average annual rate of 5.3 percent due to a 15.8-percent increase in output and a 9.9-percent average annual increase in employee years. During 1972-77, productivity declined 2.6 percent annually as a result of a slowed average annual output increase of 4.1 percent and an annual employee year increase of 6.8 percent. During 1977-82, productivity declined 7.8 percent per year due to an output decline of 3.9 percent annually and an average annual employee year increase of 4.2 percent. In the latest period, 1982-87, all three measures decreased: productivity, 8.1 percent; output, 14.5 percent; and employee years, 7.0 percent. Productivity has decreased in 13 of the last 17 years, which is a reflection of decreasing output, particularly in recent years. Although employment for the function has been cut back during 6 of the last 7 years, the decreases in output have exceeded the cuts in input by a wide margin. However, in 1987 some organizations had to increase employment to fulfill new regulatory requirements.

Compensation and unit labor cost

Compensation per employee year, which includes fringe benefits as well as salaries and wages, in the Federal agencies increased 3.8 percent in fiscal 1987. Unit labor cost, which reflects the interaction of changes in employee compensation and productivity, increased 3.6 percent in 1987. By comparison, the 1986 rates were 3.0 percent for compensation per employee year and 1.4 percent for unit labor cost.

In 1987, changes in compensation per employee year for the 28 functions ranged from an increase of 8.0 percent for records management to a decrease of 2.3 percent for general

Compensation per employee year increased at an average annual rate of 7.7 percent between 1967 and 1987, with increases ranging from 11.6 percent in 1971 to 3.0 percent in 1986. While compensation per employee year has increased every year, the rate of increase has slowed, particularly in recent years. The average annual increase was 9.0 percent between 1967 and 1972; 8.9 between 1972 and 1977; 7.7 between 1977 and 1982; and 4.3 between 1982 and 1987.

Unit labor cost increased at an annual rate of 6.1 percent between 1967 and 1987. The largest increase was 10.8 percent in 1970, the smallest, 1.4 percent in 1986. Like compensation, unit labor cost has increased every year, with the rate of increase slowing as time progressed: 7.6 percent between 1967 and 1972; 7.3 between 1972 and 1977; 5.9 between 1977 and 1982; and 3.5 between 1982 and 1987. This is a reflection of progressively smaller increases in compensation and increasing output.

The average annual increase in compensation per employee year in the 28 functions ranged from a high of 8.5 percent for the Postal Service, where employees bargain for compensation, to a low of 5.4 percent in personnel management, procurement, and traffic management. The change in unit labor cost ranged from a 10.6-percent average annual increase for electric power production and distribution to an average annual decrease of 3.2 percent for communications.

Communications was the only function that registered a long-term decrease in unit labor cost, a reflection of rapidly increasing productivity. Between 1973 and 1982, productivity increased at an average annual rate of 11.8 percent, while compensation increased at an average annual rate of 7.5 percent, resulting in a decrease in unit labor cost of 3.8 percent. More recently, between 1982 and 1987 productivity growth has slowed to 6.2 percent and unit labor cost has decreased at a slower rate of 1.7 percent.

The electric power production and distribution function registered the largest average annual increase in unit labor cost, 10.6 percent. Unit labor cost has risen rapidly throughout the measured period—an average annual increase of 2.9 percent between 1967 and 1972; 11.2 percent between 1972 and 1977; 12.7 percent between 1977 and 1982; and 16.7 percent between 1982 and 1987. The unit labor cost increases are primarily a reflection of reduced productivity, which has been adversely affected by problems with nuclear plant construction and operation.

State and Local Government

Electric services (SIC 4911)

State and local government electric power services output per employee year increased 2.1 percent in 1986, the last year for which data are available, as output and employment increased 5.3 and 3.1 percent respectively. In 1985, output, employment, and productivity also increased. However, over the 1982-86 period, productivity declined at an average annual rate of 0.3 percent as employment increased at a more rapid rate than output(3.6 versus 3.3 percent). The long-term productivity trend (1967-86) shows an average annual increase of 1.5 percent, with output increasing at a rate of 3.2 percent and employment increasing at 1.7 percent.

State sales of alcoholic beverages (SIC 5182 part and 5921 part)

Output per employee year of State sales of alcoholic beverages dropped 1.3 percent in 1987 as output and input dropped 3.1 and 1.9 percent, respectively. In 1986, productivity, output, and input also declined. The drop in output in 1986 and 1987 was a continuation of a trend that started in 1980, a trend which reflects decreasing demand for spirits and a shift in several States from government to private sector operations.

Unemployment insurance (SIC 9441 part)

State unemployment insurance productivity decreased 2.7 percent in fiscal 1987 as output dropped 6.3 percent and inputs were cut 3.7 percent. During 1982-87, productivity, output and labor decreased. The driving force behind this decrease was the decline in output, which was a reflection of declining unemployment in the Nation and the resulting drop in unemployment insurance claims and payments. While State staffing was cut, it did not decline as rapidly as output. The result was an average annual decrease in productivity of 1.9 percent between 1982 and 1987. However, over the period 1963-87, productivity increased at an average annual rate of 0.9 percent, with output increasing at an average annual rate of 3.6 percent, and labor increasing at 2.7 percent.

Table 317. Federal Government–Audit of operations: Indexes of output per employee year and related data, 1967–87
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	78.4	113.3	144.6	48.9	62.3
1968	82.8	124.3	150.1	51.9	62.6
1969	90.1	129.0	143.2	55.5	61.6
1970	90.3	120.4	133.4	64.3	71.2
1971	79.0	96.6	122.3	70.1	88.7
1972	83.3	94.6	113.6	75.6	90.7
1973	89.2	99.8	111.9	73.1	87.5
1974	94.7	106.8	112.7	82.4	86.9
1975	99.2	114.0	115.0	85.2	86.0
1976	97.1	105.5	108.7	93.1	95.9
1977	100.0	100.0	100.0	100.0	100.0
1978	102.6	104.9	102.2	108.6	105.8
1979	100.8	102.1	101.3	115.4	114.5
1980	97.6	101.4	103.9	117.2	120.1
1981	97.0	102.9	106.1	126.1	130.1
1982	93.3	98.3	105.4	149.4	160.2
1983	95.3	102.0	107.0	159.6	167.6
1984	97.9	105.3	107.6	166.2	169.8
1985	100.6	108.4	107.7	172.5	171.4
1986	93.7	101.3	108.2	178.9	191.0
1987	84.5	87.8	103.9	188.7	223.3
Average annual percent change:					
1967-87	.7	-.8	-1.5	7.0	6.3
1982-87	-1.5	-1.6	-.1	4.5	6.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 318. Federal Government–Buildings and grounds: Indexes of output per employee year and related data, 1967–87
(1977=100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	79.3	97.7	123.1	40.1	50.5
1968	78.1	96.9	124.0	41.6	53.3
1969	78.7	94.6	120.1	46.1	58.5
1970	77.2	92.1	119.3	51.8	67.2
1971	76.3	93.4	122.4	56.3	73.8
1972	79.0	94.5	119.6	63.1	79.9
1973	77.0	87.6	113.9	68.1	88.5
1974	80.9	89.8	110.9	75.4	93.1
1975	91.7	103.4	112.7	80.2	87.5
1976	94.1	102.5	108.9	89.1	94.6
1977	100.0	100.0	100.0	100.0	100.0
1978	102.6	102.6	100.0	102.9	100.3
1979	109.0	106.7	97.9	110.7	101.6
1980	109.7	109.3	99.6	112.7	102.7
1981	122.1	116.0	95.0	125.8	103.0
1982	127.0	115.3	90.8	130.4	102.6
1983	127.9	114.4	89.4	124.8	97.5
1984	130.4	116.4	89.2	127.0	97.4
1985	128.8	116.0	90.0	129.6	100.6
1986	122.5	110.9	90.5	133.1	108.7
1987	121.8	109.4	89.8	130.4	107.0
Average annual percent change:					
1967-87	3.2	1.3	-1.9	6.7	3.3
1982-87	-1.0	-1.0	(1)	.6	1.6

[1] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 319. Federal Government–Communications: Indexes of output per employee year and related data, 1973–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1973	70.0	68.8	98.3	76.5	109.3
1974	74.6	77.0	103.2	82.0	109.9
1975	82.5	82.9	100.6	89.5	108.5
1976	88.1	89.6	101.8	96.2	109.2
1977	100.0	100.0	100.0	100.0	100.0
1978	111.1	111.4	100.3	107.3	96.5
1979	112.8	113.5	100.7	114.6	101.6
1980	145.0	142.7	98.4	118.7	81.9
1981	178.4	167.4	93.8	136.4	76.5
1982	183.2	166.8	91.0	155.7	84.9
1983	196.1	185.5	94.6	156.3	79.7
1984	213.8	209.1	97.8	162.7	76.1
1985	226.1	223.9	99.0	170.8	75.5
1986	236.2	232.7	98.5	184.5	78.1
1987	247.4	245.3	99.1	189.4	76.5
Average annual percent change:					
1973-87	10.4	10.1	-.3	6.9	-3.2
1982-87	6.2	7.9	1.6	4.5	-1.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 320. Federal Government–Education and training: Indexes of output per employee year and related data, 1968–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1968	91.5	98.5	107.6	49.1	53.6
1969	91.6	107.8	117.7	53.2	58.0
1970	83.4	109.3	131.0	56.5	67.7
1971	84.0	109.3	130.1	61.9	73.7
1972	86.9	113.1	130.2	71.5	82.3
1973	84.9	109.6	129.1	73.6	86.7
1974	83.5	100.5	120.3	80.0	95.7
1975	81.0	95.3	117.7	85.3	105.4
1976	88.5	93.5	105.6	91.0	102.8
1977	100.0	100.0	100.0	100.0	100.0
1978	98.7	95.3	96.5	103.6	104.9
1979	104.8	95.5	91.1	108.8	103.7
1980	105.4	99.1	94.0	118.3	112.2
1981	115.8	100.6	86.8	132.8	114.6
1982	111.8	106.4	95.2	141.8	126.9
1983	109.2	105.0	96.1	150.1	137.4
1984	108.1	106.3	98.3	157.3	145.5
1985	108.6	109.0	100.4	164.3	151.4
1986	109.2	110.9	101.5	173.5	158.8
1987	107.8	111.6	103.5	176.3	163.5
Average annual percent change:					
1968-87	1.7	.1	-1.6	7.2	5.4
1982-87	-.5	1.2	1.7	4.6	5.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 321. Federal Government-Electric power production and distribution: Indexes of output per employee year and related data, 1967-87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	86.9	38.9	44.7	45.9	52.9
1968	94.8	49.5	52.2	48.8	51.5
1969	103.1	55.8	54.1	52.8	51.3
1970	111.1	64.6	58.1	56.9	51.2
1971	107.5	73.4	68.3	62.9	58.6
1972	114.1	83.1	72.8	68.1	59.6
1973	112.6	76.2	67.7	71.8	63.7
1974	110.3	74.8	67.8	75.6	68.5
1975	108.2	80.0	74.0	81.3	75.2
1976	104.1	87.1	83.7	93.6	89.9
1977	100.0	100.0	100.0	100.0	100.0
1978	102.2	123.4	120.7	107.7	105.4
1979	90.7	123.4	136.2	115.6	127.5
1980	92.2	127.7	138.5	120.7	131.0
1981	85.6	118.4	138.3	120.6	140.9
1982	62.8	76.8	122.3	121.5	193.4
1983	77.9	83.3	106.9	132.9	170.6
1984	67.2	65.9	98.0	142.1	211.5
1985	58.5	56.4	96.4	146.9	250.9
1986	54.5	45.2	82.9	164.7	302.4
1987	44.2	38.2	86.2	173.4	391.9
Average annual percent change:					
1967-87	-3.4	-.5	4.1	6.8	10.6
1982-87	-8.1	-14.5	-7.0	7.3	16.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 322. Federal Government-Equipment maintenance: Indexes of output per employee year and related data, 1968-87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1968	95.4	136.6	143.1	47.7	50.0
1969	99.5	142.1	142.8	56.4	56.7
1970	97.8	123.6	126.4	61.2	62.6
1971	105.0	118.6	112.9	68.3	65.0
1972	103.9	119.9	115.4	68.9	66.3
1973	98.4	110.8	112.6	72.6	73.8
1974	100.7	107.5	106.7	78.7	78.1
1975	101.1	107.8	106.6	85.8	84.9
1976	101.6	104.3	102.7	93.4	92.0
1977	100.0	100.0	100.0	100.0	100.0
1978	104.1	104.2	100.1	109.2	104.9
1979	105.1	103.0	98.0	113.8	108.2
1980	106.3	99.4	93.5	126.2	118.7
1981	110.3	104.0	94.3	143.1	129.8
1982	110.5	104.6	94.6	147.8	133.7
1983	110.5	106.1	96.0	156.5	141.6
1984	115.5	111.1	96.2	168.6	146.0
1985	117.1	113.3	96.7	174.7	149.2
1986	119.5	115.6	96.8	181.4	151.9
1987	119.2	111.3	93.3	186.7	156.6
Average annual percent change:					
1968-87	1.1	-.9	-1.9	7.4	6.3
1982-87	1.8	1.7	-.1	4.8	3.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 323. Federal Government–Finance and accounting: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	78.3	93.1	118.8	49.0	62.6
1968	80.3	96.2	119.7	51.8	64.5
1969	81.1	99.2	122.2	54.2	66.8
1970	83.7	98.2	118.5	61.4	73.3
1971	84.9	99.1	116.7	66.2	77.9
1972	83.5	98.2	117.6	70.9	84.9
1973	82.5	96.0	116.3	74.7	90.5
1974	85.3	94.0	110.1	81.3	95.3
1975	92.6	96.9	104.6	88.0	95.0
1976	98.7	99.8	101.1	94.9	96.1
1977	100.0	100.0	100.0	100.0	100.0
1978	103.1	98.3	95.3	109.5	106.2
1979	107.6	100.5	93.4	117.4	109.1
1980	121.3	116.4	95.9	126.9	104.6
1981	127.9	121.4	94.9	135.9	106.3
1982	150.8	132.2	87.7	144.8	96.0
1983	166.9	142.7	85.5	154.3	92.4
1984	163.6	145.5	88.9	164.3	100.4
1985	163.2	148.2	90.8	171.0	104.7
1986	168.8	155.7	92.2	173.1	102.5
1987	174.1	158.2	90.9	181.3	104.1
Average annual percent change:					
1967-87	4.7	2.7	-1.8	7.1	2.4
1982-87	2.2	3.4	1.2	4.4	2.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 324. Federal Government–General support services: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	65.5	53.1	81.1	50.1	76.6
1968	71.9	60.0	83.4	51.8	72.0
1969	72.5	62.4	86.1	55.2	76.2
1970	80.7	68.2	84.5	61.4	76.1
1971	83.6	73.6	88.1	64.3	77.0
1972	94.4	80.8	85.6	73.2	77.5
1973	98.6	84.8	85.9	76.8	77.8
1974	101.3	90.5	89.3	88.6	87.4
1975	91.2	88.7	97.3	88.3	96.8
1976	94.2	91.9	97.6	91.0	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	103.6	109.8	106.0	99.5	96.1
1979	110.0	110.6	100.6	104.3	94.8
1980	114.3	117.9	103.1	110.9	97.0
1981	129.3	127.2	98.3	123.9	95.8
1982	162.0	163.0	100.7	134.1	82.8
1983	158.2	163.2	103.2	140.7	89.0
1984	148.6	167.3	112.5	147.2	99.0
1985	136.1	168.2	123.6	152.6	112.1
1986	142.7	173.9	121.9	160.3	112.3
1987	144.1	173.7	120.5	156.6	108.7
Average annual percent change:					
1967-87	4.2	6.3	2.0	6.2	1.9
1982-87	-2.8	1.5	4.4	3.5	6.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 325. Federal Government–Information services: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	95.7	83.6	87.4	56.8	59.4
1968	98.3	86.9	88.4	59.8	60.8
1969	101.4	90.1	88.9	62.7	61.8
1970	99.7	89.7	89.9	71.7	71.8
1971	100.2	92.9	92.7	75.3	75.2
1972	102.6	95.8	93.4	79.4	77.4
1973	95.5	96.5	101.1	78.8	82.5
1974	98.3	98.6	100.3	84.4	85.9
1975	103.4	103.6	100.1	88.7	85.8
1976	100.9	102.5	101.6	93.8	93.0
1977	100.0	100.0	100.0	100.0	100.0
1978	101.4	98.4	97.0	108.9	107.3
1979	103.6	100.1	96.6	114.3	110.3
1980	103.6	100.7	97.1	123.8	119.4
1981	104.4	103.2	98.9	134.2	128.5
1982	106.7	100.2	93.8	141.8	132.8
1983	114.1	104.2	91.3	149.0	130.6
1984	118.8	107.1	90.2	158.2	133.2
1985	125.2	113.7	90.8	165.7	132.3
1986	126.6	114.1	90.2	170.5	134.6
1987	130.4	115.5	88.6	175.9	134.9
Average annual percent change:					
1967-87	1.3	1.3	(1)	6.0	4.7
1982-87	4.0	3.0	−.9	4.5	.5

[1] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 326. Federal Government–Legal and judicial activities: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	100.9	69.3	68.7	56.0	55.6
1968	100.0	70.8	70.8	58.1	58.1
1969	102.3	71.0	69.4	64.6	63.1
1970	107.4	74.1	69.0	73.5	68.5
1971	115.1	80.0	69.5	79.6	69.2
1972	117.1	85.4	72.9	82.8	70.7
1973	114.0	87.7	76.9	84.2	73.8
1974	105.2	86.9	82.6	85.7	81.5
1975	106.4	93.4	87.8	86.7	81.5
1976	104.3	99.5	95.4	90.3	86.5
1977	100.0	100.0	100.0	100.0	100.0
1978	97.8	101.2	103.5	109.1	111.6
1979	102.1	106.4	104.2	115.1	112.7
1980	101.5	114.1	112.5	124.4	122.5
1981	104.4	119.6	114.6	134.6	129.0
1982	108.9	124.2	114.1	148.6	136.5
1983	111.7	131.5	117.7	155.5	139.2
1984	110.1	134.4	122.1	163.9	148.9
1985	113.1	142.9	126.4	170.2	150.6
1986	113.5	145.5	128.2	176.9	155.9
1987	113.7	149.2	131.3	184.6	162.4
Average annual percent change:					
1967-87	.3	4.1	3.8	6.2	5.9
1982-87	.8	3.7	2.9	4.4	3.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 327. Federal Government-Library services: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	56.5	39.2	69.3	45.1	79.8
1968	59.4	47.5	80.0	46.6	78.4
1969	64.1	50.9	79.3	52.8	82.3
1970	64.4	51.1	79.3	59.7	92.6
1971	65.5	52.5	80.3	64.6	98.7
1972	65.9	54.5	82.7	70.5	107.0
1973	69.4	60.5	87.2	73.4	105.8
1974	74.4	66.4	89.2	79.5	106.9
1975	83.5	76.5	91.7	84.5	101.1
1976	92.7	87.8	94.6	89.6	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	96.4	99.6	103.3	111.0	115.2
1979	100.4	105.8	105.4	114.4	113.9
1980	106.4	111.2	104.5	126.9	119.2
1981	111.5	114.0	102.3	139.7	125.3
1982	107.2	112.0	104.5	144.9	135.2
1983	110.1	114.0	103.5	157.4	142.9
1984	118.6	119.2	100.5	162.9	137.4
1985	120.9	121.6	100.6	175.0	144.8
1986	130.8	124.7	95.3	181.8	139.0
1987	128.7	126.4	98.2	181.3	140.9
Average annual percent change:					
1967-87	4.5	6.2	1.7	7.6	3.0
1982-87	4.2	2.6	−1.6	4.7	.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 328. Federal Government-Loans and grants: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	63.4	57.3	90.3	46.3	73.0
1968	67.0	62.1	92.7	49.3	73.6
1969	69.8	63.8	91.4	53.4	76.5
1970	77.5	72.8	94.0	60.8	78.5
1971	85.8	86.4	100.6	65.5	76.3
1972	84.9	88.7	104.5	68.9	81.3
1973	86.0	88.5	102.9	73.4	85.4
1974	87.5	83.1	95.0	81.1	92.7
1975	91.1	85.4	93.7	86.0	94.5
1976	95.8	91.4	95.3	91.7	95.7
1977	100.0	100.0	100.0	100.0	100.0
1978	99.0	105.5	106.6	104.3	105.3
1979	107.6	117.2	108.9	107.3	99.7
1980	105.1	115.1	109.5	118.7	112.9
1981	110.3	117.0	106.0	134.4	121.8
1982	104.7	99.1	94.6	145.3	138.7
1983	117.3	110.6	94.3	152.5	130.0
1984	112.2	108.1	96.4	156.1	139.1
1985	122.4	114.2	93.3	165.0	134.8
1986	122.7	112.5	91.6	168.0	136.9
1987	112.8	102.6	90.9	175.0	155.1
Average annual percent change:					
1967-87	3.1	3.1	(1)	7.1	3.9
1982-87	1.7	.8	−.9	3.7	2.0

[1] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 329. Federal Government–Medical services: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	98.4	81.9	83.2	47.2	47.9
1968	100.3	85.9	85.6	49.5	49.3
1969	100.6	86.8	86.3	51.8	51.5
1970	99.8	85.7	85.9	58.9	59.0
1971	99.1	85.9	86.6	64.4	64.9
1972	93.9	84.8	90.3	70.4	74.9
1973	96.9	91.5	94.4	74.5	76.8
1974	96.7	92.5	95.6	79.5	82.2
1975	98.5	95.5	97.0	86.6	87.9
1976	100.1	99.1	99.0	96.7	96.6
1977	100.0	100.0	100.0	100.0	100.0
1978	98.2	100.3	102.1	105.0	106.9
1979	98.4	101.1	102.8	111.6	113.5
1980	100.5	104.0	103.5	120.9	120.3
1981	100.8	104.6	103.7	136.6	135.5
1982	101.9	110.5	108.4	147.1	144.3
1983	104.0	114.9	110.5	153.6	147.7
1984	103.4	115.5	111.6	159.5	154.2
1985	103.6	116.8	112.8	165.1	159.4
1986	105.5	119.7	113.5	173.5	164.5
1987	106.1	121.9	114.9	184.9	174.3
Average annual percent change:					
1967-87	.3	2.0	1.7	7.3	7.0
1982-87	.7	1.8	1.1	4.5	3.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 330. Federal Government–Military base services: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	100.1	157.4	157.2	44.3	44.3
1968	104.4	152.7	146.3	49.3	47.2
1969	104.7	146.7	140.1	54.0	51.5
1970	101.6	140.7	138.4	63.0	62.0
1971	93.6	134.7	143.9	65.5	70.0
1972	94.7	133.5	141.0	65.6	69.3
1973	89.5	116.6	130.3	70.7	78.9
1974	90.6	106.9	120.2	71.1	78.5
1975	95.7	109.2	114.2	80.3	83.9
1976	99.9	106.3	106.3	87.9	87.9
1977	100.0	100.0	100.0	100.0	100.0
1978	100.4	96.6	96.1	102.8	102.3
1979	101.5	95.0	93.6	106.1	104.5
1980	102.2	96.1	94.0	113.1	110.6
1981	104.9	97.6	93.0	125.8	119.9
1982	109.3	98.7	90.2	136.3	124.6
1983	107.9	98.9	91.7	137.3	127.3
1984	99.4	95.9	96.4	139.0	139.9
1985	100.4	90.9	90.6	153.9	153.3
1986	108.0	95.8	88.8	161.4	149.5
1987	110.2	93.6	85.0	166.7	151.3
Average annual percent change:					
1967-87	.4	-2.7	-3.1	6.8	6.3
1982-87	.1	-1.2	-1.3	4.7	4.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 331. Federal Government-Natural resources and environmental management: Indexes of output per employee year and related data, 1967-87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	90.2	94.1	104.3	50.2	55.6
1968	91.3	94.3	103.2	53.4	58.5
1969	90.7	90.8	100.1	57.7	63.6
1970	91.5	87.8	95.9	65.6	71.8
1971	97.2	90.2	92.9	71.8	73.9
1972	99.4	93.8	94.3	75.0	75.5
1973	101.2	93.1	92.0	79.7	78.8
1974	99.9	91.5	91.5	84.0	84.0
1975	98.5	92.9	94.3	88.0	89.3
1976	99.9	97.0	97.1	94.8	95.0
1977	100.0	100.0	100.0	100.0	100.0
1978	105.1	107.6	102.4	105.6	100.6
1979	102.2	105.2	102.9	112.8	110.3
1980	102.0	105.0	103.0	129.1	126.6
1981	102.7	107.3	104.5	136.4	132.8
1982	111.9	113.6	101.5	146.6	131.0
1983	112.7	114.0	101.2	157.5	139.8
1984	115.6	115.5	99.9	166.9	144.4
1985	119.3	114.6	96.1	178.3	149.5
1986	120.4	112.6	93.5	177.9	147.7
1987	125.7	114.3	90.9	183.9	146.2
Average annual percent change:					
1967-87	1.5	1.4	(1)	6.9	5.3
1982-87	2.3	(1)	-2.3	4.6	2.2

[1] Less than .05 percent.
NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 332. Federal Government-Personnel investigations: Indexes of output per employee year and related data, 1967-87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	68.1	39.0	57.2	49.1	72.2
1968	74.0	41.4	56.0	55.1	74.5
1969	69.1	39.7	57.4	59.0	85.3
1970	68.1	35.9	52.7	69.6	102.3
1971	76.9	36.6	47.6	70.4	91.5
1972	77.4	33.6	43.5	78.5	101.4
1973	80.3	32.5	40.5	83.4	103.9
1974	82.8	108.5	131.0	76.7	92.7
1975	87.6	113.9	130.0	84.4	96.3
1976	83.4	95.5	114.5	92.1	110.4
1977	100.0	100.0	100.0	100.0	100.0
1978	103.3	104.6	101.3	105.6	102.2
1979	108.6	65.5	60.3	117.9	108.5
1980	107.7	64.9	60.3	129.3	120.1
1981	109.7	71.6	65.2	139.6	127.2
1982	104.5	80.8	77.3	137.9	132.0
1983	99.4	83.0	83.6	156.6	157.5
1984	102.2	86.8	85.0	157.8	154.4
1985	105.6	95.5	90.5	166.0	157.2
1986	98.6	95.7	97.0	167.3	169.8
1987	108.9	105.6	98.8	176.9	165.5
Average annual percent change:					
1967-87	2.5	5.4	2.8	6.5	3.9
1982-87	.4	5.5	5.1	4.4	4.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 333. Federal Government–Personnel management: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	80.4	47.6	59.2	58.0	72.0
1968	86.0	62.9	73.1	60.2	70.0
1969	81.5	59.5	73.0	64.7	79.3
1970	83.8	59.8	71.3	73.7	87.9
1971	95.6	73.6	77.1	76.5	80.0
1972	94.9	72.2	76.0	79.1	83.3
1973	93.4	77.6	83.1	79.3	84.9
1974	99.9	91.1	91.2	83.9	84.0
1975	95.2	93.8	98.5	88.0	92.4
1976	93.1	92.0	98.8	91.1	97.8
1977	100.0	100.0	100.0	100.0	100.0
1978	96.6	99.0	102.6	107.4	111.2
1979	108.8	24.0	22.1	128.0	117.6
1980	93.9	111.9	112.1	104.9	105.0
1981	97.3	104.3	107.1	124.9	128.3
1982	106.7	106.2	99.4	134.6	126.1
1983	94.3	103.1	109.3	141.4	149.9
1984	101.9	105.1	103.1	147.9	145.2
1985	100.1	105.5	105.4	153.4	153.3
1986	100.7	108.5	107.8	159.1	158.0
1987	98.4	106.6	108.3	166.6	169.3
Average annual percent change:					
1967-87	1.0	3.2	2.3	5.4	4.4
1982-87	-.7	.5	1.2	4.2	4.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 334. Federal Government–Postal service (SIC 4311): Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	90.3	91.5	101.2	38.8	42.9
1968	88.8	92.7	104.4	40.7	45.8
1969	89.4	95.6	106.9	43.7	48.9
1970	89.8	97.7	108.7	47.5	52.8
1971	91.8	99.5	108.4	54.4	59.2
1972	92.8	98.3	106.0	58.6	63.1
1973	98.2	100.6	102.5	62.8	64.0
1974	95.6	100.8	105.4	69.7	72.8
1975	95.5	99.2	103.8	79.3	83.0
1976	95.9	98.1	102.4	89.2	93.0
1977	100.0	100.0	100.0	100.0	100.0
1978	103.2	102.3	99.1	107.8	104.5
1979	101.9	102.8	100.8	114.6	112.4
1980	105.1	106.9	101.7	123.9	117.9
1981	106.4	108.4	101.9	134.7	126.6
1982	107.0	109.0	101.9	142.8	133.5
1983	107.4	110.8	103.2	148.2	138.0
1984	108.8	118.2	108.6	155.5	142.9
1985	109.1	123.3	113.2	163.9	150.2
1986	110.9	129.3	116.6	167.1	150.8
1987	110.9	133.7	120.6	172.1	155.1
Average annual percent change:					
1967-87	1.2	1.6	.9	8.5	7.1
1982-87	.8	4.5	3.6	3.9	3.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 335. Federal Government–Printing and duplication: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	116.7	142.4	122.0	42.0	36.0
1968	115.5	140.7	121.8	44.2	38.3
1969	111.6	136.2	122.0	46.6	41.8
1970	110.9	135.4	122.0	51.9	46.8
1971	102.4	119.4	116.6	57.1	55.7
1972	100.8	115.7	114.8	63.4	62.9
1973	103.1	119.7	116.0	65.7	63.7
1974	99.5	113.5	114.0	72.1	72.5
1975	98.4	108.1	109.8	80.1	81.4
1976	100.4	106.6	106.2	91.3	91.0
1977	100.0	100.0	100.0	100.0	100.0
1978	97.6	94.4	96.8	106.8	109.5
1979	103.7	96.6	93.2	114.9	110.8
1980	108.3	96.7	89.3	121.8	112.4
1981	102.6	92.8	90.4	123.4	120.3
1982	105.8	89.7	84.8	132.6	125.3
1983	113.1	96.7	85.5	139.8	123.6
1984	120.3	103.1	85.7	143.7	119.4
1985	122.1	102.6	84.1	150.1	122.9
1986	125.0	101.0	80.8	157.7	126.2
1987	126.8	98.5	77.7	162.4	128.0
Average annual percent change:					
1967-87	.5	-2.0	-2.5	7.5	6.9
1982-87	3.6	1.7	-1.8	4.1	6

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 336. Federal Government–Procurement: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	88.9	117.3	131.9	56.9	64.0
1968	86.0	110.4	128.4	61.3	71.3
1969	84.6	107.5	127.0	67.2	79.5
1970	76.5	90.5	118.2	75.9	99.1
1971	84.5	88.6	104.8	82.9	98.1
1972	84.9	89.3	105.2	75.4	88.8
1973	87.7	91.4	104.1	81.5	92.9
1974	93.3	93.2	99.9	84.3	90.4
1975	95.9	94.8	98.9	90.3	94.1
1976	99.4	95.5	96.1	95.5	96.1
1977	100.0	100.0	100.0	100.0	100.0
1978	108.7	108.7	100.0	107.6	98.9
1979	115.4	111.8	96.8	112.6	97.8
1980	121.0	120.4	99.4	118.9	98.2
1981	127.7	130.9	102.5	130.4	102.1
1982	125.3	134.5	107.3	136.7	109.1
1983	124.7	138.3	110.9	144.4	115.8
1984	127.2	142.6	112.1	149.4	117.5
1985	122.5	145.5	118.7	155.1	126.6
1986	119.5	149.7	125.3	161.0	134.7
1987	121.4	148.7	122.4	164.8	135.7
Average annual percent change:					
1967-87	2.6	2.4	-.2	5.4	2.8
1982-87	-.9	2.2	3.1	3.8	4.7

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 337. Federal Government-Records management: Indexes of output per employee year and related data, 1967-87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	73.5	104.8	142.4	46.5	63.2
1968	72.0	104.6	145.2	46.8	65.0
1969	78.9	112.6	142.7	52.0	65.9
1970	77.4	116.1	150.0	58.6	75.7
1971	74.8	113.3	151.4	64.1	85.7
1972	83.2	115.3	138.5	72.1	86.6
1973	82.2	115.5	140.5	73.4	89.3
1974	80.2	92.1	114.8	81.4	101.5
1975	86.9	85.5	98.3	85.4	98.2
1976	94.0	93.2	99.1	94.2	100.2
1977	100.0	100.0	100.0	100.0	100.0
1978	103.7	102.3	98.6	107.7	103.8
1979	110.0	111.7	101.6	113.0	102.7
1980	111.6	115.0	103.0	115.4	103.4
1981	113.8	109.9	96.5	115.7	101.7
1982	120.0	109.2	91.0	126.8	105.6
1983	122.0	110.2	90.4	127.8	104.8
1984	125.2	112.6	89.9	135.0	107.8
1985	121.4	111.3	91.7	147.3	121.3
1986	128.5	119.8	93.3	150.0	116.8
1987	125.3	112.5	89.8	162.1	129.4
Average annual percent change:					
1967-87	3.3	.3	-2.9	6.4	3.0
1982-87	1.0	1.1	.1	5.3	4.2

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 338. Federal Government-Regulation-compliance and enforcement: Indexes of output per employee year and related data, 1967-87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	80.7	62.3	77.2	51.7	64.0
1968	83.0	65.6	78.9	53.6	64.5
1969	85.6	66.8	78.0	57.9	67.6
1970	88.0	69.5	79.0	65.4	74.2
1971	89.6	73.2	81.6	69.5	77.5
1972	92.6	76.3	82.3	73.7	79.6
1973	95.0	82.6	86.9	75.7	79.7
1974	95.9	87.1	90.8	81.0	84.4
1975	95.1	91.9	96.7	86.4	90.8
1976	98.0	96.3	98.3	93.4	95.3
1977	100.0	100.0	100.0	100.0	100.0
1978	101.2	103.9	102.7	108.9	107.6
1979	104.5	110.3	105.6	115.4	110.5
1980	107.6	114.2	106.1	124.8	115.9
1981	112.5	116.0	103.2	134.6	119.6
1982	118.6	117.3	98.9	146.2	123.3
1983	126.6	125.9	99.4	156.6	123.7
1984	126.9	128.8	101.5	162.9	128.3
1985	130.2	137.3	105.5	173.5	133.3
1986	140.6	149.3	106.2	175.5	124.8
1987	136.6	153.2	112.1	183.6	134.4
Average annual percent change:					
1967-87	2.7	4.6	1.8	6.9	4.1
1982-87	3.0	5.6	2.5	4.5	1.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 339. Federal Government–Regulation–rulemaking and licensing: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	76.4	64.4	84.3	50.9	66.6
1968	79.6	68.8	86.3	53.0	66.6
1969	83.3	69.8	83.8	57.9	69.5
1970	87.6	73.8	84.3	66.9	76.4
1971	91.9	79.1	86.0	70.7	77.0
1972	92.6	80.2	86.7	73.4	79.3
1973	95.6	87.8	91.8	76.1	79.5
1974	93.6	89.2	95.3	81.0	86.5
1975	93.5	92.1	98.5	85.1	90.9
1976	94.4	92.8	98.3	91.0	96.3
1977	100.0	100.0	100.0	100.0	100.0
1978	93.1	107.9	115.9	100.9	108.3
1979	95.5	107.9	112.9	108.4	113.5
1980	109.5	126.4	115.4	119.4	109.0
1981	121.7	140.1	115.1	132.3	108.7
1982	131.4	144.1	109.6	149.6	113.8
1983	139.3	160.7	115.4	156.3	112.2
1984	146.1	174.5	119.4	163.8	112.1
1985	153.6	184.8	120.3	168.8	109.9
1986	150.9	180.8	119.8	169.2	112.1
1987	154.8	184.6	119.2	178.0	115.0
Average annual percent change:					
1967-87	3.6	5.8	2.2	6.7	3.0
1982-87	3.2	4.8	1.6	3.3	.1

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 340. Federal Government–Social services and benefits: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	75.2	48.5	64.5	50.4	67.0
1968	75.4	51.4	68.1	52.5	69.6
1969	78.0	53.5	68.7	56.2	72.1
1970	81.2	55.4	68.1	64.7	79.7
1971	86.0	60.6	70.5	70.3	81.8
1972	87.5	63.3	72.4	74.7	85.4
1973	91.3	67.4	73.8	78.9	86.4
1974	89.7	77.9	86.8	80.2	89.4
1975	92.2	88.5	96.0	84.6	91.7
1976	96.1	95.3	99.1	91.7	95.5
1977	100.0	100.0	100.0	100.0	100.0
1978	99.4	97.0	97.6	109.2	109.8
1979	102.5	100.7	98.3	117.4	114.6
1980	101.0	97.9	96.9	127.0	125.7
1981	102.1	96.9	94.9	138.1	135.3
1982	102.4	98.3	96.0	146.5	143.1
1983	109.7	106.0	96.6	156.5	142.7
1984	110.1	103.6	94.1	163.7	148.7
1985	118.4	106.7	90.1	172.8	145.9
1986	114.6	99.5	87.1	177.3	154.7
1987	120.3	98.8	82.2	187.0	155.5
Average annual percent change:					
1967-87	2.3	4.1	1.8	7.0	4.6
1982-87	2.9	-.3	-3.2	4.8	1.8

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 341. Federal Government-Specialized manufacturing: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	78.5	107.5	137.0	43.8	55.8
1968	85.2	109.9	129.0	47.2	55.4
1969	87.3	114.2	130.9	50.0	57.4
1970	92.7	116.0	125.3	54.8	59.2
1971	102.3	124.5	121.7	59.8	58.4
1972	96.6	120.4	124.6	63.3	65.5
1973	94.8	126.6	133.5	69.6	73.3
1974	94.3	113.5	120.4	75.9	80.5
1975	93.5	105.2	112.5	82.9	88.6
1976	97.8	112.8	115.3	88.8	90.7
1977	100.0	100.0	100.0	100.0	100.0
1978	106.0	103.3	97.4	106.0	100.0
1979	119.2	108.0	90.6	114.5	96.1
1980	119.6	110.1	92.1	127.9	106.9
1981	141.8	121.8	85.9	134.3	94.7
1982	133.4	119.4	89.6	145.1	108.8
1983	138.0	122.3	88.6	147.9	107.1
1984	143.8	128.2	89.1	150.6	104.7
1985	146.9	130.1	88.6	159.8	108.7
1986	149.1	124.1	83.2	161.6	108.4
1987	146.2	124.1	84.9	167.1	114.3
Average annual percent change:					
1967-87	3.3	.5	-2.7	7.5	4.1
1982-87	2.1	.7	-1.3	3.0	.9

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 342. Federal Government-Supply and inventory control: Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	76.6	154.9	202.3	49.4	64.5
1968	79.0	156.1	197.6	51.5	65.2
1969	90.6	172.5	190.4	51.0	56.4
1970	84.9	150.6	177.5	57.4	67.6
1971	85.6	137.2	159.9	64.4	75.1
1972	86.2	131.5	152.5	68.7	79.6
1973	86.8	122.7	141.4	72.8	83.9
1974	86.8	112.2	129.1	79.8	91.8
1975	94.2	112.9	119.9	82.6	87.7
1976	96.1	106.1	112.4	92.7	96.4
1977	100.0	100.0	100.0	100.0	100.0
1978	96.8	101.0	104.3	99.8	103.1
1979	95.2	95.9	100.8	108.3	113.8
1980	97.8	98.2	100.4	114.8	117.4
1981	98.8	99.0	100.2	121.7	123.2
1982	106.1	104.7	98.6	131.5	123.9
1983	104.3	104.9	100.5	138.4	132.6
1984	100.2	102.9	102.6	143.5	143.1
1985	96.7	101.3	104.8	150.7	155.9
1986	99.1	103.6	104.6	156.4	157.9
1987	104.2	106.3	102.0	160.8	154.3
Average annual percent change:					
1967-87	1.3	-2.4	-3.7	6.5	5.1
1982-87	-.8	.1	.3	4.1	5.0

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 343. Federal Government–Traffic management: Indexes of output per employee year and related data, 1972–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1972	97.2	126.1	129.7	75.5	77.7
1973	96.8	119.7	123.6	78.9	81.4
1974	59.8	104.7	116.6	80.6	89.7
1975	96.3	100.9	104.8	85.9	89.2
1976	93.8	101.2	107.8	91.0	96.9
1977	100.0	100.0	100.0	100.0	100.0
1978	106.2	104.4	98.3	103.9	97.8
1979	115.3	108.4	93.9	110.5	95.8
1980	115.0	105.5	91.7	110.9	96.5
1981	124.8	104.4	83.6	117.4	94.0
1982	117.0	105.2	89.9	134.0	114.6
1983	115.8	106.4	91.9	137.6	118.8
1984	112.7	105.8	93.8	145.5	129.1
1985	120.8	110.3	91.3	155.5	128.7
1986	111.8	101.4	90.7	150.4	134.5
1987	130.8	113.6	86.9	154.9	118.4
Average annual percent change:					
1972-87	2.0	-.3	-2.3	5.4	3.3
1982-87	1.5	.8	-.7	3.1	1.5

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 344. Federal Government–Transportation: indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years	Compensation per employee year	Unit labor cost
Index:					
1967	72.7	67.3	92.6	43.8	60.2
1968	80.3	75.5	94.0	46.3	57.7
1969	83.8	79.7	95.1	51.5	61.5
1970	85.6	83.5	97.5	60.3	70.4
1971	82.4	83.2	100.9	66.8	81.0
1972	85.9	86.7	101.0	72.4	84.4
1973	90.1	90.5	100.5	74.7	82.9
1974	91.3	91.1	99.8	79.4	86.9
1975	92.9	93.2	100.3	86.7	93.3
1976	94.6	94.2	99.5	94.1	99.5
1977	100.0	100.0	100.0	100.0	100.0
1978	105.3	106.6	101.2	105.8	100.4
1979	107.1	107.0	100.0	112.9	105.5
1980	107.6	108.5	100.8	120.7	112.2
1981	112.0	106.5	95.1	135.1	120.6
1982	114.3	103.9	90.9	143.0	125.1
1983	114.6	103.1	90.0	157.0	137.0
1984	113.2	103.2	91.1	164.5	145.2
1985	114.4	105.8	92.5	172.4	150.7
1986	116.4	106.9	91.9	177.3	152.4
1987	115.0	108.7	94.5	181.4	157.7
Average annual percent change:					
1967-87	2.3	2.0	-.3	7.5	5.1
1982-87	.2	1.0	.8	4.7	4.4

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

Table 345. State and local government-Electric power (SIC 4911): Indexes of output per employee year and related data, 1967–86
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967	64.3	62.4	97.0
1968	71.2	67.9	95.4
1969	80.6	74.3	92.2
1970	84.0	80.4	95.7
1971	86.9	86.3	99.3
1972	88.5	88.0	99.4
1973	87.6	90.1	102.8
1974	87.1	91.1	104.6
1975	88.8	91.5	103.1
1976	93.2	96.2	103.2
1977	100.0	100.0	100.0
1978	99.2	104.3	105.2
1979	100.1	110.3	110.2
1980	101.2	112.2	110.9
1981	99.2	114.0	115.0
1982	96.7	110.5	114.2
1983	94.8	112.8	119.0
1984	93.4	116.4	124.7
1985	93.8	119.9	127.8
1986 [1]	95.8	126.2	131.8
Average annual percent change:			
1967-86	1.5	3.2	1.7
1982-86	-.3	3.3	3.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the American Public Power Association, the Edison Electric Institute, and the Bureau of the Census.

Table 346. State and local government-State sales of alcoholic beverages (Parts of SIC 5182, 5921): Indexes of output per employee year and related data, 1967–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1967	78.2	73.7	94.2
1968	78.8	76.5	97.1
1969	79.8	80.2	100.5
1970	79.0	82.7	104.7
1971	83.7	86.1	102.8
1972	86.7	89.6	103.3
1973	92.3	94.0	101.9
1974	93.1	94.3	101.3
1975	96.0	97.8	101.9
1976	96.8	98.7	102.0
1977	100.0	100.0	100.0
1978	102.0	103.1	101.1
1979	104.0	103.7	99.7
1980	103.1	102.9	99.8
1981	103.1	101.8	98.8
1982	106.3	99.0	93.1
1983	108.0	95.7	88.6
1984	109.0	93.1	85.4
1985	103.1	89.8	87.1
1986	100.0	86.8	86.8
1987 [1]	98.7	84.1	85.2
Average annual percent change:			
1967-87	1.6	.8	-.8
1982-87	-1.9	-3.2	-1.4

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the Distilled Spirits Council of the U.S. and the Bureau of the Census.

Table 347. State and local government-Unemployment insurance (SIC 9441): Indexes of output per employee year and related data, 1963–87
(1977 = 100)

Fiscal year	Output per employee year	Output	Employee years
Index:			
1963	94.8	57.0	60.1
1964	93.5	54.6	58.4
1965	86.0	49.2	57.2
1966	86.8	43.4	50.1
1967	93.5	44.2	47.3
1968	88.7	44.0	49.6
1969	86.4	42.4	49.0
1970	95.7	49.5	51.7
1971	108.7	62.9	57.8
1972	94.3	64.8	68.7
1973	93.4	58.8	62.9
1974	106.6	63.3	59.4
1975	129.6	104.9	80.9
1976	113.9	118.2	103.8
1977	100.0	100.0	100.0
1978	89.0	79.2	89.0
1979	85.1	75.2	88.3
1980	109.2	96.4	88.3
1981	101.6	94.7	93.2
1982	117.5	112.8	96.0
1983	119.2	121.8	102.2
1984	102.0	86.2	84.5
1985	105.1	85.1	81.0
1986	110.1	82.5	75.0
1987 [1]	107.1	77.3	72.2
Average annual percent change:			
1963-87	.9	3.6	2.7
1982-87	-1.9	-8.4	-6.6

[1] Preliminary.

NOTE: Because of periodic revisions in source data, the measures in this table may differ from those previously published.

SOURCE: Output and employment based on data from the Employment and Training Administration, U.S. Department of Labor.

Appendix A. Methods and Data sources

Industry Labor Productivity Measures

The indexes of output per employee hour are computed by dividing an index of output by an index of aggregate employee hours. Corresponding measures also are computed relating output to the number of employees. For industries in trade and services, measures are prepared relating output to the hours of all persons involved in producing that output, including self-employed and unpaid family workers.

The output indexes are based primarily on the physical quantity of the products of the industry combined with fixed-period weights. Unit employee hour weights are used whenever possible to aggregate the data.

For many industries, however, unit labor weights are not available at the detailed product level, so substitute weights must be used. The most common substitute weights are unit values, which are used if they are believed to be proportional to unit employee hours. For many manufacturing industries, however, employee hour weights at the product-class level can be developed from the available data. In such cases, a dual-level weighting system is used: Unit value weights at the product level and employee hour weights at the product-class level.

Although the weights relate to fixed periods, they are updated periodically, usually in conjunction with economic censuses, which are conducted every 5 years. The most current weights used were derived from the 1982 economic censuses. For three industries—railroads, iron mining, and copper mining—two alternative productivity measures, using different concepts of industry output, are presented.

When adequate annual physical quantity data are not available, indexes are derived from data on the value of industry output adjusted for price change. Since the adjustment for price change is most often downward, the indexes usually are called "deflated value" indexes. Such indexes are conceptually equivalent to indexes which use data on physical quantities of products combined with unit value weights. This index is derived by dividing the value of the industry's output by an industry price index. An index of these deflated values shows the change in the real value of output between the past and current periods.

Periodically, the output indexes for most of the measures are adjusted to levels based on data reported in the economic censuses for mining, manufacturing, and business. The most current adjustments presented in this report reflect data from the 1982 economic censuses.

Employment and employee hour indexes are developed primarily from basic data compiled by the Bureau of Labor Statistics and the Bureau of the Census. In concept, indexes based on employee hour data from the Bureau of the Census relate to plant hours only. Employee hour data from BLS include hours at work and also payroll hours such as vacations, holidays, and sick leave paid by the establishment directly to the employee.[1] Because of increases in paid leave over time, output per employee hour worked would tend to show a somewhat higher rate of gain than output per employee hour paid. However, actual differences may result from statistical limitations in the data as well as from differences in concepts. In general, BLS data are the preferred source for measuring industry employment and hours because they are collected monthly and are benchmarked each year to comprehensive data from the State unemployment insurance programs.

This report includes indexes of output per employee hour and output per employee. In most cases, the indexes are shown for all employees, production workers, and nonproduction workers.[2] Although both BLS and the Bureau of the Census provide data on production worker hours, neither source provides annual data by industry on nonproduction worker or all-employee hours. Therefore, the nonproduction worker hours are estimated.

The estimates of aggregate nonproduction worker hours for the manufacturing industries are derived from published employment data and from estimates of average annual hours paid or worked per nonproduction worker. Prior to 1968, the estimates of average annual hours paid were calculated by multiplying the number of workweeks in the year by the scheduled weekly hours. Estimated hours for vacations, holidays, disability, and personal time off were subtracted from average annual hours paid to obtain an estimate of average annual hours worked. Vacation and holiday trends were based on studies by the former U.S. Department of Health, Education, and Welfare and on data from BLS surveys. Personal time off was estimated as a constant on the basis of data obtained from various sources. From 1968

[1] Indexes for the railroad transportation industry are based on data from the Interstate Commerce Commission and are related primarily to hours at work.

[2] The term "production workers" covers manufacturing and mining employees who work at the plant or mine and who are generally in nonsupervisory occupations. The remaining employees, such as professional, technical, clerical, supervisory, etc., are identified as "nonproduction workers."

to 1977, the estimates of average annual hours paid and average annual hours worked have been based on data collected in the BLS survey, Employee Compensation in the Private Nonfarm Economy. Since these surveys are no longer conducted, the 1977 levels are being carried forward until other data become available.

For the 27 retail trade and service industries, measures of the hours of partners, proprietors, and supervisory workers were developed. Except for hotels, motels, and tourist courts, and beauty and barber shops, estimates were also made for the hours of unpaid family workers. Average weekly hours worked for partners, proprietors, and unpaid family workers were obtained from unpublished data collected in the Current Population Survey. Average weekly hours worked by supervisory employees were obtained from the censuses of population. Estimates for intercensal years were derived using extrapolation and linear interpolation techniques.

All-employee hour estimates for the manufacturing industries are derived by summing the aggregate hours for production workers and the estimated hours for nonproduction workers. Hours of all persons are derived by summing the aggregate hours for paid employees, partners, proprietors, and unpaid family workers.

Manufacturing and mining indexes involving nonproduction worker hours are subject to a wider margin of error than are the indexes involving only production worker hours because it is necessary to estimate the average hours of nonproduction workers. In general, any error in these estimates would have a relatively insignificant effect on the trend in the hours for all employees.

The output indexes and employee hour components of the industry productivity indexes are based on data from a number of different sources, which are identified in the tables. For many of the industries, the 1987 output indexes are based on the data sources that are regularly used. However, for some industries, the normal data sources are not yet available, and other information, such as the Federal Reserve Board output indexes, the Current Industrial Reports of the Bureau of the Census, and trade association data, were used. For those industries for which the Bureau of the Census is the primary source of employment and employee hours, the 1987 indexes were developed by linking employment and employee hour data from BLS, since 1987 census data are not yet available. Therefore, all 1987 output per employee hour measures are considered preliminary and are subject to revision. The indexes refer to the standard reference base 1977 = 100 and they conform to the 1987 Standard Industrial Classification (SIC) definitions.

Industry Multifactor Productivity Measures

Output

The output measures underlying multifactor productivity are calculated using, whenever possible, the same units of products or services of the industry as are used in measuring output for the industry labor productivity measures. Whenever possible, physical quantities are used as the unit of measurement; when physical quantities are unavailable, constant-dollar value of shipments, sales, or revenue data are used. The multifactor productivity output measures differ from the labor productivity output measures primarily in the method used for weighting together the various categories of output, as explained below.

The multifactor output measure utilizes price weights for combining the various categories of output of an industry. Generally, census value data for each detailed output category are divided by the physical quantity of output for that category to obtain the unit value (or price) estimates. The price of each output category is multiplied by its corresponding quantity and then expressed as a share of the total value of output. These value shares, averaged at time t and t-1, are used to weight together the differences between t and t-1 in the logarithms of the quantities. The antilogarithms of the sums are taken and chained together to form the index. This form of weighting is known as Tornquist aggregation. The output data sources are the same as those used in calculating indexes for the labor productivity measures.

Employee hours

Employee hour indexes are calculated in the same way as those used in measuring industry labor productivity. As with the labor productivity measure, employee hours are treated as homogeneous and additive with no distinction made between hours of different groups of employees. The index is computed by simply dividing the aggregate employee hours for each year by the base-period total. Data sources are the same as those used in calculating employee hour indexes for the labor productivity measures.

Capital

The measure of capital input is based on the flow of services derived from the stock of physical assets. Physical capital is composed of equipment, structures, land, and inventories. Financial capital is excluded. Capital services are estimated by calculating capital stocks; changes in the stocks are assumed proportional to changes in capital services for each asset. Stocks of different asset types are Tornquist-aggregated, using estimated rental prices to construct the weights for assets of different types.

Capital stocks are calculated using the perpetual inventory method, which takes into account the continual additions to and subtractions from the stock of capital as new investment and retirement of old capital take place. The perpetual inventory method measures stocks at the end of a year equal to a weighted sum of all past investments, where the weights are the asset's efficiency relative to a new asset. A hyperbolic age-efficiency function is used to calculate the relative efficiency of an asset at different ages. The hyperbolic age-efficiency function can be expressed:

$St = (L-t)/(L-(B)t)$

where:

St = the relative efficiency of a t-year-old asset

L = the service life

t = the age of the asset

B = the parameter of efficiency decline

The parameter of efficiency decline is assumed to be 0.5 for equipment and 0.75 for structures. These parameters yield a function in which assets lose efficiency more slowly at first, then rapidly later in life.

Stocks of equipment, structures, inventories, and land are estimated separately. Individual price deflators for each asset category are constructed and used to convert the current-dollar investment to constant dollars. Industry-specific service lives are computed for each type of equipment asset for use in the perpetual inventory method.

Current-dollar values of inventory stocks are calculated for three separate categories of manufacturers' inventories: Finished goods, work in process, and materials and supplies. Inventory stocks for each year are calculated as the average of the end-of-year stocks in years t and t-1 to represent the average used during the year as a whole. This is also done with equipment, structures, and land. Current-dollar inventory values for the three categories of inventories are deflated with appropriate price indexes.

Land stocks are estimated as a function of the movement in constant-dollar gross structures stocks for the given industry.

The various equipment, structure, inventory, and land stock series in constant dollars are aggregated into one capital input measure using estimated rental prices as weights. The method of calculating rental prices is similar to that used in calculating multifactor productivity for major sectors of the economy except that no attempt is made to incorporate the effects of indirect business taxes, for which data are lacking at the industry level.

The rental prices are expressed in rates per constant dollar of productive capital stocks. Each rental price is multiplied by its constant-dollar capital stock to obtain current-dollar capital costs which are then converted to value shares for Tornquist aggregation.

Industry capital indexes are developed from basic data published and maintained by the Bureau of the Census and the Bureau of Economic Analysis, U.S. Department of Commerce; and the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics. Price indexes are derived from producer price indexes developed by the Bureau of Labor Statistics.

Intermediate purchases

The index of intermediate purchases input is an aggregate of separate indexes of change in real materials, services, fuels, and electricity consumed by an industry. With the exception of electricity, for which both price and quantity data are available, the above indexes are calculated by dividing annual current-dollar values by appropriate price indexes to obtain constant-dollar annual estimates. Separate price deflators for materials and fuels for each industry are constructed using detailed price and value data for individual subcomponents of each group. The aggregate deflators are divided into the current-dollar values to derive constant-dollar estimates. The constant-dollar series for each component are indexed by dividing each year's estimate by the base-period aggregate.

The indexes of change in real materials, services, fuels, and electricity are weighted together with value share weights to derive an aggregate intermediate purchases index. These weights are derived by dividing the current-dollar values of each by the total combined value of intermediate purchases, and averaging these weights at times t and t-1.

Industry intermediate purchases indexes are developed from basic data published by the Bureau of the Census and the Bureau of Economic Analysis.

Weights for major input components

The indexes representing quantity change for each of the three major inputs are weighted together to compute the index of combined inputs. The relative weights for each year are derived from total costs for each input. All-employee labor costs from Census data are used for the labor weight. The sum of current-dollar values for materials, services, fuels, and electricity constitute the weight for intermediate purchases. The weight for capital is derived by subtracting labor costs and an estimate of purchased services from Census value-added data. These compensation shares are averaged at time t and t-1.

Government Labor Productivity Measures

Federal

Indexes of output per employee year, output, and employee years for selected functional categories[3] of Government activity and for 372 participating organizations are constructed in a manner similar to that described for industries. In addition, indexes of compensation per employee year and unit labor cost are calculated. At the present time, these indexes cover about 69 percent (2.1 million employee years) of the Federal civilian work force.

Ideally, a productivity index should relate final outputs to their associated direct and indirect input(s), and, in fact, the output data are final from the perspective of the functional categories within which these data are classified. However, since the outputs of one organization may be consumed wholly or partially by another Federal organization in the

[3] See table 316 accompanying discussion in text for definitions.

production of its final outputs, all output indicators in the Federal sample may not be final from the perspective of a higher level of organization; for example, the entire Federal Government. Therefore, the overall statistics do not represent "Federal productivity" but, rather, the weighted average of the productivity changes of the Federal organizations included in the sample.

Through an annual collection process, most data are submitted directly by agencies to BLS, but in some cases data are obtained from secondary sources such as agency budgets and annual reports. In the Federal sample, approximately 3,000 products and services are aggregated into output indexes by combining the quantities of each type of output using their respective base-year labor requirements as weights. These unit employee year weights are constructed from the detailed output and input data provided by each organization. Although the weights relate to fixed periods, they are updated every 5 years. The output segments are linked and referenced to a fiscal year 1977 base; the fiscal year is October 1 through September 30.

The organizational indexes are grouped into 28 functional categories, based on similarity of activity. Some of these categories, such as printing and duplication, are more homogeneous than others, such as general support services, which include many diverse activities. Nonetheless, these categories provide insight into the trends for the major functional areas underlying the overall sample. Although the indexes are also constructed for each participating organization, these are not published but are returned to each organization for its own use (for example, to stimulate further examination of the causes of productivity change within each organization). This is one method used by BLS to validate the basic data (that is, by examining the reasonableness of the derived trends).

Employee year indexes are developed from agency data submissions and secondary sources. As in all labor input measures used by the Bureau to develop productivity indexes, employee years are considered homogeneous and additive. Each employee year reflects the regularly scheduled time, overtime, and leave time of all full-time, part-time, and intermittent employees. An employee year is equivalent to one individual paid for 2,087 hours.

The compensation indexes include wages, salaries, and benefits including retirement, merit pay increases, incentive pay, health insurance, and the like. Data to compute the indexes are taken from agency data submissions and secondary sources. The unit labor cost index is derived by dividing the index of compensation by the index of output.

State and local

Government measurements are being extended to include indexes of output per employee year, output, and employee years for selected State and local services. A cross-section of services is being examined and indexes computed using concepts and methods similar to those for industries and the Federal Government. This research, which uses published and readily available secondary data, is keyed to the Standard Industrial Classification system.

Output indexes reflect final services to the public. The consequences or effectiveness of government service are not measured. The focus is on government production. For example, prison system outputs are the number of prisoners housed and to whom treatment is administered, not the effectiveness of rehabilitation or community safety. Output data are taken from Federal agencies such as the Departments of Labor, Justice, and Transportation and from industry groups such as the American Public Power Association, American Public Transit Association, and Distilled Spirits Council of the U.S.

Employee year index computations use the same general concepts as those used in the Federal measurements. The primary source of employment data is the Bureau of the Census's annual public employment survey. This is supplemented by data from Federal agencies and industry associations when available.

Rates of Change

The average annual rates of change published in this bulletin are based on the linear least squares trends of the logarithms of the index numbers. The rates of change shown in each table indicate the first year of available data, in some cases beginning in 1947. However, due to space limitations, the tables in this bulletin do not provide indexes prior to 1963. Indexes and average annual rates of change for time periods not shown are available on request from the Bureau of Labor Statistics.

Appendix B. BLS Publications on Productivity and Technology

How to order

The *Monthly Labor Review* is available by subscription or single copy from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 ($20 a year domestic; $25 foreign; single copy $5 domestic; $6.25 foreign). Make checks payable to Superintendent of Documents.

Reprints and news releases are available free of charge, as long as the supply lasts, from the Bureau of Labor Statistics, Washington, DC 20212, or from the Bureau's regional offices. Electronic access to productivity news releases is available for a fee. For details, contact the BLS Office of Publications.

Bulletins are for sale by the Superintendent of Documents or the BLS Publications Sales Center, P.O. Box 2145, Chicago, IL 60690. Out-of-print publications may be available at large public and school libraries and at Government depository libraries. Publications marked with an asterisk (*) also are available on microfiche and in paper copy from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

Papers are available from the Bureau's Office of Productivity and Technology. Information regarding productivity reports and articles published prior to 1985 can be obtained from the Office of Productivity and Technology.

Productivity trends in individual industries

"Productivity in Agricultural Chemicals Industries," by Horst Brand and Kelly Bryant, *Monthly Labor Review*, forthcoming.

"Productivity in the Carburetors, Pistons, and Valves Industry," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, forthcoming.

"Variety Stores Experience Shifting Trend in Productivity," by James D. York, *Monthly Labor Review*, forthcoming.

"Patterns of Productivity Change in Men's and Boys' Suits and Coats," by Mark Scott Sieling and Daniel Curtin, *Monthly Labor Review*, forthcoming.

"Multifactor Productivity in the Footwear Industry," by John Duke and Lisa Usher, *Monthly Labor Review*, forthcoming.

"Trends in Multifactor Productivity in the Tires and Tubes Industry," by Diane Litz and Linda Moore, *Monthly Labor Review*, forthcoming.

"Productivity Growth Slows in the Organic Chemicals Industry," by Clyde Huffstutler and Barbara Bingham, *Monthly Labor Review*, June 1988, pp. 44-51.

"Retail Hardware Stores Register Productivity Gain," by Patricia S. Wilder and Virginia L. Klarquist, *Monthly Labor Review*, May 1988, pp. 39-43.

"Semiconductor Productivity Gains Linked to Multiple Innovations," by Mark Scott Sieling, *Monthly Labor Review*, April 1988, pp. 27-33.

"Productivity Trends in the Cotton and Synthetic Broad Woven Fabrics Industry," by Mark W. Dumas and J. Edwin Henneberger, *Monthly Labor Review*, April 1988, pp. 34-38.

"Productivity in Selected Industries and Government Services in 1986," by Arthur S. Herman, *Monthly Labor Review*, April 1988, pp. 51-57.

"Productivity Trends in Department Stores, 1967-86," by Brian L. Friedman, *Monthly Labor Review*, March 1988, pp. 17-21.

"Productivity Shows a Decline in Automotive Repair Shops," by John G. Olsen and Richard B. Carnes, *Monthly Labor Review*, March 1988, pp. 22-26.

"Productivity Gains Lukewarm for Makers of Nonelectric Heating Equipment," by John W. Ferris and Virginia L. Klarquist, *Monthly Labor Review*, March 1988, pp. 27-32.

"Productivity in Industrial Inorganic Chemicals," by Horst Brand and Ziaul Z. Ahmed, *Monthly Labor Review*, March 1988, pp. 33-40.

"Measuring Productivity in Service Industries: The BLS Experience," by Jerome A. Mark. Paper presented at a Symposium on Technology and the Services Industries, National Academy of Engineering, Washington, D. C., January 28-29, 1988. 23 pp.

"Productivity Measures: Industries and Government," reprint of chapter 11 of the *BLS Handbook of Methods*, BLS Bulletin 2285 (1988).

"Performance of Multifactor Productivity in the Steel and Motor Vehicles Industries," by Mark K. Sherwood, *Monthly Labor Review*, August 1987, pp. 22-31.

"The Mining Machinery Industry: Labor Productivity Trends, 1972-84," by Barbara A. O'Neil, *Monthly Labor Review*, June 1987, pp. 31-35.

"Productivity Trends in the Furniture and Home Furnishings Stores Industry," by Arthur S. Herman and J. Edwin Henneberger, *Monthly Labor Review*, May 1987, pp. 24-29.

"Two Decades of Productivity Growth in Poultry Dressing and Processing," by Ziaul Z. Ahmed and Mark Sieling, *Monthly Labor Review*, April 1987, pp. 34-39.

"Retail Liquor Stores Experience Flat Trend in Productivity," by James D. York, *Monthly Labor Review*, February 1987, pp. 25-29.

"Trends of Labor Productivity in Metal Stampings Industries," by Horst Brand and Clyde Huffstutler, *Monthly Labor Review*, May 1986, pp. 13-20.

"Beauty and Barbershops: The Trend of Labor Productivity," by Horst Brand and Ziaul Z. Ahmed, *Monthly Labor Review*, March 1986, pp. 21-26.

"Productivity in the Metal Doors, Sash, and Trim Industry," by Elmer S. Persigehl and John G. Olsen, *Monthly Labor Review*, March 1986, pp. 27-31.

"Developments in Labor Statistics," by Jerome A. Mark. Talk before the National Association of Business Economists' Seminar on Economic Statistics, Washington, D.C., February 26, 1986.

"Productivity Growth Low in the Oilfield Machinery Industry," by Brian L. Friedman and Arthur S. Herman, *Monthly Labor Review*, December 1985, pp. 34-38.

"Productivity Trends in the Machine Tool Accessories Industry," by James D. York, *Monthly Labor Review*, June 1985, pp. 28-32.

"Productivity Growth Below Average in the Internal Combustion Engine Industry," by J. Edwin Henneberger and Arthur S. Herman, *Monthly Labor Review*, May 1985, pp. 22-26.

"Productivity in the Wood Kitchen Cabinets Industry," by Horst Brand and Norman Bennett, *Monthly Labor Review*, March 1985, pp. 24-30.

"Productivity in the Service Sector," by Jerome A. Mark. Statement for Subcommittee on Economic Stabilization of the U.S. House of Representatives, Committee on Banking, Finance and Urban Affairs, June 1984. 24 pp.

"Status of Recommendations for Improving Official Productivity Measures," White House Conference on Productivity, Background Paper, July 1983.

Productivity trends in government

"Public Sector Productivity Measurement: U.S. Federal Government Agencies," by Jerome A. Mark. Paper presented at the European Association of National Productivity Centers Conference, Athens, Greece, October 5-8, 1988. 17 pp.

"Productivity Measures: Industries and Government," reprint of chapter 11 of the *BLS Handbook of Methods*, Bulletin 2285 (1988).

"Public Sector Productivity Measurement: The BLS Experience," by Jerome A. Mark, *The Measurement and Implications of Productivity Growth: Proceedings of a Workshop, 22-23 November 1984*, Canberra, Bureau of Labour Market Research, Australia Department of Employment and Industrial Relations, Monograph Series No. 14 (1986).

"Productivity Trends in the Federal Government," by Donald M. Fisk, Monthly Labor Review, October 1985, pp. 3-9.

"Productivity Measurement as a Tool in Federal Management Improvement," by Charles W. Ardolini. Statement for Subcommittee on Civil Service, Post Office, and General Services of the U.S. Senate, Committee on Governmental Affairs, September 1984. 28 pp.

Measuring Productivity in State and Local Government, by Donald M. Fisk, BLS Bulletin 2166 (December 1983). Out of print.

"Productivity Measurement of Government Services," White House Conference on Productivity, Background Paper, June 1983.

"Modest Productivity Gains in State Unemployment Insurance Service," by Donald M. Fisk, *Monthly Labor Review*, January 1983, pp. 24-27.

Productivity and other economic trends

Productivity and Costs (quarterly news release).

Multifactor Productivity Measures (annual news release).

"Productivity, Age, and Labor Composition Changes in the U.S.," by Mary Jablonski, Larry Rosenblum, and Kent Kunze, *Monthly Labor Review*, September 1988, pp. 34-38.

"Productivity and Employment: the 1988 International Symposium," by Horst Brand, *Monthly Labor Review*, August 1988, pp. 32-38.

"The Role of Capital Discards in Multifactor Productivity Measurement," by Susan G. Powers, *Monthly Labor Review*, June 1988, pp. 27-35.

"Recent Changes in the Growth of U.S. Multifactor Productivity," by Edwin Dean and Kent Kunze, *Monthly Labor Review*, May 1988, pp. 14-22.

Productivity and the Economy: a Chartbook, BLS Bulletin 2298 (Revised) (March 1988). Price: $4.75.

"Productivity Measures: Business Sector and Major Subsectors," reprint of chapter 10 of the *BLS Handbook of Methods*, Bulletin 2285 (1988).

"Multifactor Productivity in U.S. Manufacturing, 1949-83," by William Gullickson and Michael Harper, *Monthly Labor Review*, October 1987, pp. 18-28.

"Problems Encountered in Measuring Single- and Multifactor Productivity," by Jerome A. Mark, *Monthly Labor Review*, December 1986, pp. 3-11.

"United States Productivity Growth Since 1982: The Post-Recession Experience," by Lawrence J. Fulco, *Monthly Labor Review*, December 1986, pp. 18-22.

"The Contribution of Research and Development to Productivity Growth," by Leo Sveikauskas, *Monthly Labor Review*, March 1986, pp. 16-20.

"The Decline in Productivity During the First Half of 1985," by Lawrence J. Fulco, *Monthly Labor Review*, December 1985, pp. 39-42.

"Hours at Work Increase Relative to Hours Paid," by Kent Kunze, *Monthly Labor Review*, June 1985, pp. 44-47.
Productivity: A Selected, Annotated Bibliography, 1979-82, BLS Bulletin 2212 (1984). Out of print.

"A New BLS Survey Measures the Ratio of Hours Worked to Hours Paid," by Kent Kunze, *Monthly Labor Review*, June 1984, pp. 3-7.

"Multifactor Productivity: A New BLS Measure," by Jerome A. Mark and William H. Waldorf, *Monthly Labor Review*, December 1983, pp. 3-15.

Trends in Multifactor Productivity, 1948-81, BLS Bulletin 2178 (September 1983). Out of print.

"Productivity Change, Capacity Utilization, and the Sources of Efficiency Growth," BLS Working Paper 137 (June 1983).
A BLS Reader on Productivity, BLS Bulletin 2171 (June 1983). Out of print.

Technology studies

Technological Change and Its Labor Impact in Four Industries (contract construction, railroad transportation, air transportation, petroleum pipeline transportation). BLS Bulletin 2316 (forthcoming).

"Technological Change," reprint of chapter 12 of the *BLS Handbook of Methods*, Bulletin 2285 (1988).
"Technological Change and Employment: Some Results from BLS Research," by Jerome A. Mark, *Monthly Labor Review*, April 1987, pp. 26-29.

Technology and Labor in Four Industries (lumber and wood products, footwear, hydraulic cement, and wholesale trade). BLS Bulletin 2263 (December 1986). Out of print.

Technology and Its Impact on Labor in Four Industries (tires, aluminum, aerospace, banking), BLS Bulletin 2242 (1986). Out of print.

The Impact of Technology on Labor in Four Industries (textiles, paper and paperboard, steel, motor vehicles), BLS Bulletin 2228 (1985). Out of print.

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Index of Industries

	Page
Agricultural chemicals	74
Air and gas compressors	125
Air transportation	146
Alcoholic beverages, State	204
Alkalies	65
Alkalies and chlorine	65
Aluminum rolling and drawing	100
Aluminum, primary	98
Animal feed	31
Apparel	45
Apparel and accessory stores	157
Appliance, radio, television, and music stores	164
Appliances	131-135
Cooking equipment	132
Freezers	133
Household, n.e.c.	135
Laundry equipment	134
Refrigerators	133
Audio and video equipment stores	166
Automobiles	140, 184
Automotive repair shops	175
Automotive stampings	107
Bakeries	154
Bakery products	32
Ball and roller bearings	124
Banking, commercial	170
Barber shops	173
Bearings	124
Beauty and barber shops	173
Beauty shops	174
Beet sugar	35
Beverages:	
Alcoholic, State	204
Malt	37
Milk	22
Soft drinks	38
Bituminous coal and lignite mining	15
Bottled and canned soft drink	38
Boxes	62, 63
Brick and structural clay tile	87
Bus carriers	144
Cabinets	48
Candy and confectionery products	36
Canned fruits and vegetables	24
Cans	101
Car dealers	155
Carburetors, pistons, and valves	127
Cement	84
Ceramic wall and floor tile	88
Cereal breakfast foods	28
Chemicals and allied products:	
Agricultural chemicals	74
Alkalies	65
Chlorine	65
Cosmetics	71
Detergents	70
Fertilizers	74-78
Industrial inorganic chemicals	64
Industrial inorganic chemicals, n.e.c.	67
Industrial organic chemicals, n.e.c.	73
Inorganic pigments	66
Paint and allied products	72
Pharmaceutical preparations	69
Soaps	70
Synthetic fibers	68
Toiletries	71
Chlorine	65
Cigarettes, chewing and smoking tobacco	40
Cigars	41
Class I bus carriers	144
Clay construction products	86
Clay products	85-89
Clay refractories	89
Clothing	45
Clothing stores, family	160
Coal mining	14, 15
Commercial banking	170
Communications, telephone	148
Compressors	122, 125
Concrete products	90
Concrete, ready-mixed	91
Construction machinery and equipment	115
Containers:	
Glass	83
Metal	101
Cooking equipment	132
Copper mining, crude ore	12
Copper mining, recoverable metal	13
Copper, primary	97
Copper, rolling and drawing	99
Corn milling	30
Corrugated and solid fiber boxes	63
Cosmetics and other toiletries	71
Cotton and synthetic broad woven fabrics	42
Crushed and broken stone	17
Department stores	151
Detergents	70
Doors, metal	105
Drinking places	167
Drug and proprietary stores	168
Eating and drinking places	167
Electric lamps	136
Electric services, State and local	204
Electric utilities	150
Electrical equipment:	
Appliances	131-135
Cooking	132
Generators	130
Lamps	136
Laundry	134
Lighting fixtures	137
Motors	130
Refrigerators and freezers	133
Switchboard	129
Switchgear	129
Transformers	128
Fabricated metal products:	
Cans	101
Doors	105
Edge tools	102
Hand tools	102
Heating equipment	103
Pipe	110
Stampings	106-108
Structural metal	104
Valves	109
Fabricated pipe and fittings	110
Fabricated structural metal	104
Family clothing stores	160
Farm and garden machinery	112
Farm machinery and equipment	113
Feeds for animals and fowls	31
Fertilizers	75-77
Mixed fertilizers	77
Nitrogenous	75
Phosphatic	76
Fertilizers, mixing only	77
Flour and other grain mill products	27
Flour, including flour mixes, and other grains	26
Fluid milk	22
Folding paperboard boxes	62
Food stores	152
Footwear:	
Labor productivity	82
Multifactor productivity	182
Foundries:	
Gray iron	93
Steel	94
Steel, n.e.c.	95
Franchised new car dealers	155
Fruits and vegetables:	
Canned	24
Preserved	23
Furniture:	
Household	52-56
Office	57-59
Furniture and home furnishings stores	163
Furniture, home furnishings and equipment stores	162
Garden machinery	112
Gas and electric utilities	149
Gas utilities	150
Gasoline service stations	156
Generators	130
Glass containers	83
Grain mill products	25
Animal Feed	31
Corn	30
Flour	26, 27
Rice	29
Gray iron foundries	93
Grocery stores	153
Hand and edge tools	102
Hardware stores	151
Hardwood veneer and plywood	51
Heating equipment, except electric	103
Home furnishings, stores	163
Hosiery	43

	Page
Hotels, motels, and tourist courts	171
Household appliance stores	165
Household appliances, n.e.c.	135
Household cooking equipment	132
Household furniture	52
Mattresses and bedsprings	56
Metal furniture	55
Upholstered furniture	54
Wood furniture	53
Household laundry equipment	134
Household refrigerators and freezers	133
Hydraulic cement	84
Industrial inorganic chemicals	64
Alkalies	65
Chlorine	65
Pigments	66
Industrial inorganic chemicals, n.e.c.	67
Industrial organic chemicals, n.e.c.	73
Inorganic pigments	66
Instruments to measure electricity	141
Intercity trucking	145
Intercity trucking, general freight	145
Internal combustion engines, n.e.c.	111
Iron mining, crude ore	10
Iron mining, usable ore	11
Kitchen cabinets	48
Lamps	136
Laundry and cleaning services	172
Laundry equipment	134
Lawn and garden equipment	114
Lighting fixtures	137
Liquor stores	169
Machine tool accessories	121
Machine tools	118
Metal cutting	119
Metal forming	120
Machinery:	
Construction	115
Farm	113
Garden	114
Mining	116
Oilfield	117
Major household appliances	131
Malt beverages	37
Mattresses and bedsprings	56
Meat packing plants	19
Meat products:	
Poultry	21
Red meat	18
Sausage	20
Men's and boys' clothing stores	158
Men's and boys' suits and coats	45
Metal cans	101
Metal cutting machine tools	119
Metal doors, sash, and trim	105
Metal forming machine tools	120
Metal household furniture	55
Metal office furniture	59
Metal stampings	106
Metal stampings, n.e.c.	108
Milk	22
Milling	
Cotton	42
Grain	25
Hosiery	43
Synthetic fibers	42
Wood	46, 47
Yarn	44
Millwork	47
Mining:	
Coal	14, 15
Copper	12, 13
Iron	10, 11
Nonmetallic minerals	16
Stone	17
Mining machinery and equipment	116
Miscellaneous plastic products	81
Motels	171
Motor vehicles and equipment:	184
Labor productivity	140
Multifactor productivity	184
Motors and generators	130
Multifactor measures:	
Footwear	182
Motor vehicles and equipment	184
Steel	183
Tires and inner tubes	180, 181
Nitrogenous fertilizers	75
Nonelectric heating equipment	103
Nonmetallic minerals, except fuels	16
Nonwool yarn mills	44
Office furniture	57
Metal	59
Wood	58
Oilfield machinery and equipment	117
Paints and allied products	72
Paper and allied products:	
Bags	61
Boxes	62, 63
Paperboard	60
Paper and plastic bags	61
Paper, paperboard, and pulp mills	60
Pesticides and agricultural chemicals, n.e.c.	78
Petroleum pipelines	147
Petroleum refining	79
Pharmaceutical preparations	69
Phosphatic fertilizers	76
Pigments	66
Pipe and fittings	110
Pipe fittings	109
Pipelines	147
Plastic products:	
Bags	61
Miscellaneous	81
Plywood and veneer	49
Hardwood	51
Softwood	50
Postal service, U.S.	198
Poultry dressing and processing	21
Prepared feeds for animals and fowls	31
Preserved fruits and vegetables	23
Primary aluminum	98
Primary copper	97
Primary copper, lead, and zinc	96
Pulp mills	60
Pumps and compressors	122
Pumps and pumping equipment	123
Radio and television receiving sets	138
Radio, television, and music stores	166
Railroad transportation, car-miles	143
Railroad transportation, revenue traffic	142
Raw and refined cane sugar	34
Ready-mixed concrete	91
Red meat products	18
Refining, petroleum	79
Refrigeration and heating equipment	126
Refrigerators and freezers	133
Retail bakeries	154
Retail food stores	152
Retail trade:	
Appliance stores	164
Bakeries	154
Car dealers	155
Clothing stores	157-161
Department stores	151
Drug stores	168
Eating and drinking places	167
Food stores	152
Furniture stores	162, 163
Grocery stores	153
Hardware stores	151
Liquor stores	169
Radio, television, and music stores	166
Service stations	156
Shoe stores	161
Variety stores	152
Rice milling	29
Sausages and other prepared meats	20
Sawmills and planing mills, general	46
Semiconductors	139
Service stations	156
Services:	
Automotive repair shops	175
Beauty and barber shops	173
Hotels, motels, and tourist courts	171
Laundry and cleaning services	172
Shoe stores	161
Smelting and refining	96-98
Soaps and detergents	70
Soft drinks	38
Softwood veneer and plywood	50
Stampings:	
Automotive	107
Metal	106
Miscellaneous	108
Steel:	
Labor productivity	92
Multifactor productivity	183
Steel foundries	94
Steel foundries, n.e.c.	95
Stone	17
Stores:	
Apparel	157-161
Appliance	164
Clothing, boys'	158
Clothing, family	160
Clothing, men's	158
Clothing, women's	159
Department	151
Drug	168
Food	152
Furniture	162, 163
Grocery	153
Hardware	151
Liquor	169
Radio, television, and music	166
Shoe	161
Variety	152
Structural clay products	85
Structural metal	104
Sugar	33
Beet	35
Raw	34
Refined	34
Supermarkets	152

	Page
Switchboard	129
Switchgear and switchboard apparatus	129
Synthetic fibers	68
Telephone communications	148
Television sets	138
Textiles Tile:	
Ceramic	88
Clay	85-89
Tires and inner tubes:	
Labor productivity	80
Multifactor productivity	180-181
Tobacco products, all	39
Chewing	40
Cigarettes	40
Cigars	41
Smoking	40
Toiletries	71
Tools:	
Hand and edge	102
Metal cutting	119
Metal forming	120
Transformers	128
Transportation:	
Air	146
Bus	144
Pipelines	147
Railroads	142, 143
Truck	145
Unemployment insurance, State	205
Upholstered household furniture	54
Utilities	149
Electric	150
Gas	150
Valves and pipe fittings	109
Variety stores	152
Veneer and plywood	49
Hardwood	51
Softwood	50
Wet corn milling	30
Women's ready-to-wear stores	159
Wood household furniture	53
Wood kitchen cabinets	48
Wood office furniture	58
Wood Products:	
Cabinets	48
Furniture	53, 58
Millwork	47
Veneer and plywood	49
Yarn mills, except wool	44

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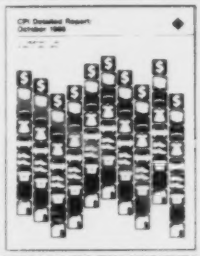

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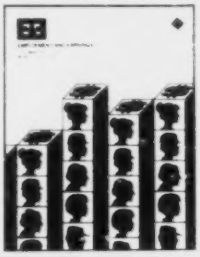

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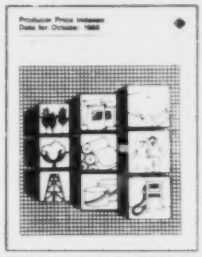

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